United States Agency for
International Development

USAID – TIJARA

# Assessment of Current and Anticipated Economic Priorities in IRAQ

**Prepared by**

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**2012**

# USAID-*TIJARA* PROVINCIAL ECONOMIC GROWTH PROGRAM

2012

# ASSESSMENT OF CURRENT AND ANTICIPATED ECONOMIC PRIORITIES IN IRAQ

Report for Prime Minister's Advisory Commission


## ACKNOWLEDGEMENT

This assessment would not have been possible without the partnership and close cooperation of Dr. Thamir Ghadhban, Chairman of the Prime Minister's Advisory Commission (PMAC) as well as his entire economic advisory team who contributed to and critiqued the work of the Assessment Team to whom we convey our special thanks. Special thanks are also due to Dr. Abdulhussein Al-Anbaki, P.M. Advisor for Economic Affairs for serving as PMAC's coordinator and guide for the assessment.

The USAID-*Tijara* Economic Assessment Team would like to thank USAID/Iraq Mission Director Alex Dickie, Deputy Mission Director Alex Deprez, and the Office of the Economic Growth and Agriculture Director Dr. Jeffrey A. Cochrane for their invaluable support and guidance during the course of this assessment. Furthermore, the team wishes to acknowledge the coordinating role played by Ali Hussainy, Contracting Officer's Technical Representative (COTR) of USAID-*Tijara* who accompanied the team undertaking key informant and focal groups' consultations.

In particular, the team wishes to acknowledge the research guidance, reviews and insights provided by Dr. Jeffrey A. Cochrane.



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# Executive Brief

Iraq is at a crossroads between broad-based economic growth on one side and a growth that could fuel conflict and support dysfunctional economic and market institutions on the other. Following decades of poverty, conflict and poor governance, new found oil wealth comes with significant risks:

- Oil wealth can mask costly economic inefficiencies, including an oversized public sector;
- Oil wealth creates distortions and perverse incentives;
- Oil wealth can hit non-oil exports as a result of exchange rate valuation; and
- Oil wealth can be subject to the whims of various groups leading to structural imbalances, which could potentially fuel further conflict.

Avoiding the so-called '***resource-curse***' or '***paradox of plenty***' must therefore remain a primary concern for the Government of Iraq if it is to learn from the successes and failures of other countries experiencing a major boom in non-renewable resource exports. So far, however, despite reining in recurrent spending in 2011, ***Iraq's growth path is on a dangerous trajectory*** that has significant political, economic and societal risks. The absence of a national economic policy, alongside outdated state-centric institutional structures and weak economic governance come at a cost: volatile growth and some groups capture.

This timely economic assessment, which provides evidence from economic analysis and sector assessments, presents ***a health check*** on the Iraqi economy while also outlining the necessary steps towards a more inclusive growth path that serves both government and wider societal interests (jobs, transparency, accountability and inclusive growth). Key messages include, but are not limited to:

- Iraq's economic, poverty and conflict future will be largely determined by the GoI's ability to govern the economy in the transparent and better use of oil revenues and establishment of wealth redistribution mechanisms;
- GDP growth has been volatile (fluctuating from 6.2% in 2006, to 0.8 % in 2010 and up to 12% in 2012) but has increased from US$ 45.1 billion in 2006 to an estimated US$108.6 billion in 2011;
- Burgeoning public sector staffing (now at over 3.4 million employees) alongside pay increases has undermined growth-inducing capital spending, with non-oil sectors declining in relative terms;
- While the National Development Plan (NDP) outlines planning objectives, it is policy-blind and lacks vision on modernizing core economic institions essential for creation of a market-based economy;
- The slow pace of restructuring State Owned Enterprises, including direct government financial support totalling US$2.4 billion in 2011, continues Iraq's state-centric economic ideology;
- NDP targets for employment creation (3 to 4.5 million between 2010-2014) are unlikely to be met and will be heavily determined by public and not private sector employment; &
- NDP projected private sector investments equalling 86% of public investment are unlikely to take place.

**Implications for Economic Programs:**

- Investments must focus on removing high-level constraints to growth;
- Improving resource-use transparency, wealth redistribution, institutional strengthening and establishing a strong economic policy foundation are critical enablers; and
- Sector investments might best include water; freight and logistics; greenhouse horticulture; housing and light construction; health; and education.

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## ACRONYMS

| | |
|---|---|
| AOC | Aeronautical Operational Control |
| bcf | Billion Cubic Feet |
| bcm | Billion Cubic Meters |
| bbls | Barrels |
| bpd | Barrels per Day |
| BOT | Build Operate Transfer |
| CBI | Central Bank of Iraq |
| CoM | Council of Ministers |
| CoR | Council of Representatives |
| COSIT | Central Organization for Statistics and Information Technology |
| CPA | Coalition Provisional Authority |
| CPI | Consumer Price Index |
| CSSF | Common Seawater Supply Facility |
| DB | Development Bank |
| DFI | Development Fund for Iraq |
| DPL | Development Policy Loan |
| EITI | Extractive Industries Transparency Initiative |
| GDP | Gross Domestic Product |
| GER | Gross Enrollment Rates |
| GNI | Gross National Income |
| GOI | Government of Iraq |
| ID | Iraqi Dinar |
| IEA | International Energy Agency |
| ILO | International Labor Organization |
| IHSES | Iraq Household Socio-Economic Survey |
| IMF | International Monetary Fund |
| INOC | Iraq National Oil Company |
| IOCs | International Oil Companies |
| IPP | Independent Power Producers |
| ITC | International Trade Commission |
| IV | Initiative Value |
| IWRM | Integrated Water Resource Management |
| JICA | Japan International Cooperation Agency |
| KRG | Kurdistan Regional Government |
| kV | Kilovolts |
| kWh | Kilowatt hours |
| LC | Letter of Credit |
| LMI | Lower Middle-Income Countries |
| LPG | Liquefied Petroleum Gas |
| mbpd | Million Barrels per Day |
| MENA | Middle East and North Africa |

| | |
|---|---|
| MoA | Ministry of Agriculture |
| MoCA | Ministry of Culture and Antiquities |
| MOC | Missan Oil Company |
| MoCH | Ministry of Construction and Housing |
| MOEd | Ministry of Education |
| MoE | Ministry of Electricity |
| MoHESR | Ministry of Higher Education and Scientific Research |
| MoF | Ministry of Finance |
| MoH | Ministry of Health |
| MoMPW | Ministry of Municipalities and Public Works |
| MoO | Ministry of Oil |
| MoT | Ministry of Transportation |
| MoWR | Ministry of Water Resources |
| MSME | Micro Small and Medium Enterprises |
| MWh | Megawatt Hour |
| NDP | National Development Plan |
| NGC | North Gas Company |
| NIC | National Investment Commission |
| NOC | North Oil Company |
| OECD | Organization for Economic Cooperation and Development |
| PDS | Public Distribution System |
| PFM | Public Financial Management |
| PMAC | Prime Minister’s Advisory Council |
| PPP | Public Private Partnership |
| PVS | Program Value Score |
| SBA | Stand-By Agreement |
| SGC | South Gas Company |
| SME | Small and Medium Enterprises |
| SOC | South Oil Company |
| SOE | State Owned Enterprise |
| SOMO | State Oil Marketing Organization |
| UAE | United Arab Emirates |
| UN | United Nations |
| UNAMI | United Nations Assistance Mission for Iraq |
| UNESCO | United Nations Educational Scientific and Cultural Organization |
| UN-HABITAT | United Nations Human Settlement Program |
| USAID | United States Agency for International Development |
| USD | United States Dollar |
| USDA | United States Department of Agriculture |
| USIDP | U.S-Iraq Development Partnership |
| WATSAN | Water and Sanitation |
| WHO | World Health Organization |

# Executive Summary

***This 'Assessment of Current and Anticipated Economic Priorities in Iraq' has adopted an evidence-based approach in identifying the core constraints to improved economic governance, to assist the Government of Iraq (GoI) in identifying the rationale for future strategic investments.*** The summary of findings is provided in Section A (Parts 1 to 3), together with an overview of the socio-economic context and a description of the methodological approach used. Economic context is described and diagnosed in Section B (Parts 4 and 5). Recommendations are provided in Section C (Part 6). Sections B and C provide the basis for the responses to the research questions (discussed in Section A, Part 3) set as part of the scope of work for this assessment.

## OVERVIEW: OIL WEALTH PROVIDES A DANGEROUS SETTING

***As outlined in Section B, Parts 4 and 5, although Iraq possesses vast oil wealth (estimated at ~143 billion barrels, third behind Saudi Arabia and Canada), such wealth currently provides little more than a fiscal resource***. Central to utilizing oil-based revenues effectively is an economic policy framework that charts a course to sustainable and broad-based (equitable) growth, through targeted sector policies and budgetary appropriations. Unfortunately, as the report makes resoundingly clear, Iraq's resource wealth not only remains a threat to its democracy, it also stands as a potential impediment to sustainable growth. Iraq is therefore at a crossroads, with a largely dysfunctional economic framework short-circuiting necessary investment, which leads to gross imbalances and inefficiencies.

***Two decades of conflict and economic sanctions led to an economic system largely driven by coping and combat economies, and a formal market economy has yet to emerge***. With a recent upturn in oil revenues, real Gross Domestic Product growth has fluctuated from 6.2% in 2006, to 0.8 % in 2010, to 9.6% in 2011 and is projected to increase to around 12% in 2012. GDP has increased from $45.1 billion in 2006 to an estimated $108.6 billion in 2011, an increase of over 120% in 6 years. Given the absence of a vibrant private sector able to become the primary provider of employment, public sector staffing has more than doubled since 2003, and numerous pay and grading reforms have meant that recurrent costs often crowd-out necessary (growth-inducing) capital investments:

- Government employment as a share of total employment rose from 28 percent in 2005 to 43 percent by 2008, leaving public sector staffing as a percentage of total population as one of the largest per capita in the world; and,
- In 2012, State Owned Enterprises are likely to receive salary subsidies in excess of US$3 billion, as well indirect subsidies through low energy prices, re-enforcing Iraq as a mixed economy.

***Short-term investment decisions built on poor policy prescriptions will undermine the demands of long-term structural transformation***. In Iraq, as the assessment makes resoundingly clear, short-run political expedience has been at the expense of long-run economic coherence. It is therefore the structure, institutions and agency of the political economy that are driving investment and not economic evidence or lessons from other countries such as the UAE and Qatar for example.

***Democracy is not just about voting—it is about an implicit contract around resource allocation between those who govern and those who are governed. Transparency in wealth redistribution is vital for the legitimacy of the government.*** There is no tax bargain in Iraq and economic incoherence therefore merely compounds the manifold dangers of the resource curse. The political stakes are unprecedented and have yet to be

clearly recognized, with the struggle for control of the machinery of state paying large rewards to some groups. Whilst a new ruling and middle class are often seen as critical enablers of greater stability, there is a huge risk that growth is not inclusive or equitable. This could, in turn, risk being a future cause of renewed internecine conflict.

So what does this mean for economic policy and future actions by government and donors? For government, adopting an evidence-based economic policy that provides opportunities for inclusive non-oil growth, using oil resources as an enabling not disabling resource, will be critical to future success. For donors, given that there is no coherent market economy around which enabling environment investments can reap quick wins, supporting the establishment of an enabling policy and institutional environment, with the budget placed as the primary tool of economic policy, must remain critical to future projects. The role of donors must therefore be to influence the policy and institutional environment alongside the composition of public spending so as to maximize gains on equitable (broad-based) growth, employment and non-oil revenues.

## METHODOLOGICAL APPROACH

Section A provides the assessment results, which are derived through the application of standard international analytical and diagnostic methods. The detailed methodological approach is presented in Section A, Part 2. In assessing the drivers of growth and the binding constraints to growth (both provided in Section B and the status reports in Annex A) in the key growth sectors, the assessment benefitted from lessons learned from other Middle Eastern countries striving to transition away from oil dependency.

***Channeling oil and gas revenues to lead the charge in generating non-oil based growth is of paramount importance***. This implies investments that support economic diversification as a key driver of economic policy through the creation of an enabling environment and investments that remove the binding constraints to growth. The results of this assessment in Chapter 1, which highlight ***de jure*** (stated) and ***de facto*** (actual) economic development priorities, identify various departures from normative economic thinking and links these observations to guide the composition of future donor spending, whilst proposing a set of corrective measures to strengthen existing investments. Therefore, assessment results provide a rich set of insights into the challenges of improving economic governance in Iraq, whilst also presenting practical solutions to strengthen future engagement. Illustrative economic projections are provided in Section 6, Part 6. In this sense, and based on the overall thrust of the National Development Plan, the following three major policy positions are proposed:

- ***Progressive diversification away from oil and gas***: While oil and gas production, exports and revenues increase in real terms, over time the share of other sources of growth increases thereby laying the foundation for a sustainable non-oil based future;
- ***Inclusive (broad-based) growth to minimize the risks of instability***: Adopting a policy of broad-based growth lays the foundation for a transparent democratic process where natural resource wealth is not captured by elite groups; and
- ***Progressive increase in capital and O&M spending***: Reducing wage and non-wage recurrent costs (which have limited growth effects); and increasing capital spending and spending on operations and maintenance as a percentage of total spending.

## ANSWERS TO THE RESEARCH QUESTIONS

As outlined in Section A, and based on the results of a detailed economic assessment and diagnostic provided in Section B, findings in Section C and '*Status Reports on Key Economic Activities*' presented in Annex A, the assessment seeks to answer to the following central questions:

- ***Question 1***: What are current GoI economic development priorities?
- ***Question 2***: To what extent do GoI economic priorities conform with or diverge from generally accepted economic principles particularly regarding the constraints to and drivers of broad-based economic growth?
- ***Question 3***: Given the above, how might the GoI proceed, given accepted strategies for broad-based economic growth, taking into consideration interests and actions of donors, the private sector, and other pertinent actors in the economy?

These questions have essentially been posited to provide a health check on current government economic governance policy and to identify areas of weak GOI policy cohesion and the way going forward.

***Question 1*: What are current GoI economic development priorities**? In answering this question the Assessment Team highlighted major discrepancies between GoI *de jure* (stated policy) and *de facto* (policy in practice). Key findings are provided in summary below, but a full discussion can be found in Section A, Part 3.1 and Section B.

**(i)** ***Government economic policy remains unclear*:**[1] GoI has not established a formal national economic development policy, and as a result there is no ***de jure*** measure of compliance with strategic investment objectives, and no clearly prescribed roles for public, private or parastatal entities. However, the National Development Plan (2010-2014) provides insight into government investment priorities and envisions investments financed through both budget appropriations and the private sector. Provincial expenditures from fiscal transfers are however not clearly documented and many Ministries appear resistant to more liberal economic policies, with (for example) the Ministry of Agriculture still providing financing to state owned agricultural banks.

**(ii)** ***Macro-fiscal framework is improving but challenges remain*:** Government has sufficient fiscal resources to drive growth and services, and the medium-term macro-fiscal outlook is positive in all senses given buoyant international oil prices and increased production. Given the volatility in international oil prices, fiscal stabilization measures are required to create a smooth investment path. Government increases in recurrent spending (wage and non-wage recurrent) also need to be capped. Capital investments are improving, as a percentage of government spending, but the composition of capital spending seems not to be driven by strategic priorities.

**(iii)** ***Economic planning and budgeting capacities leave much to be desired*:** Government statistics on socio-economic development and poverty are improving but lack of investment climate, growth diagnostic, value chain and trade-based analytical work means that planning goals and targets are often incremental, and are on existing investment priorities not policies per se. With the recurrent costs channeled through the Ministry of Finance and capital expenditures planned through the Ministry of Planning and Development Cooperation, the connection between policy, planning

[1] In principle a national economic policy should state what is to be achieved, and what are the respective roles of the public and private sectors. A national strategy then outlines how the policy objective is to be achieved, and planning outlines who does what, when, where and how. Budget process then finances plans and allows investment sequencing and prioritization to take place.

and budgeting is undermined. Moreover, horizontal fiscal imbalances and vertical sector financing balances also need to be addressed to deliver growth-enabling basic and essential services. The three growth scenarios identified in the NDP however are not so far well embedded within a (top down) medium-term fiscal and (bottom-up) sector expenditure frameworks, and this remains a significant gap.

**(iv)** ***Proposed NDP sectoral allocations have still to be achieved*****:** Government strategic investment objectives are clearly defined in the NDP, with the capital budget envisioned as constituting 30% of the GoI budget over the plan period and this has been achieved. The NDP allocates the capital budget as follows: 15% for oil; 10% for electricity; 9% for transport and communications; 5% for manufacturing; 17% for construction and services; 9.5% for agriculture; 5% for education; 12.5% for regional development; and 17% for the Kurdistan Region. However, based on budget appropriations made in 2010 and 2011, the proposed distribution of investments among various sectors of the economy has not been achieved.

**(v)** ***Private sector constraints are badly underestimated*****:** The projected share of private investment is unrealistic (NDP states around 46%), with expected levels of investment in key sectors such as energy generation and housing below levels forecast by the government. Major constraints (based on work by Economic Assessment Team and likely to be reflected in the soon to be published World Bank Investment Climate Assessment) include (i) lack of access to electricity; (ii) weak access to credit; (iii) regulatory and land allocation constraints; (iv) lack of critical value chain infrastructures; and (v) costs of finance given political and security risks.

**(vi)** ***Employment and poverty reduction targets will only be met with improved economic governance*****:** The NDP plans the creation of 3 to 4.5 million new jobs between 2010 and 2014, although it is unclear whether these jobs are to be created through direct, indirect, induced or catalytic growth effects, or also through public employment. The NDP also plans to reduce poverty incidence by 30% from 2007 levels by the end of the plan period (2014), which requires strong wealth redistribution policies to be established – not just the impact of the rising tide of national wealth – yet it remains uncertain how such re-distribution will be achieved. Moreover, many of the basic and essential services (as described in Section B, Part 4.1) vital to such reduction require horizontal fiscal imbalances to be reduced, and a greater focus on fiscal and administrative decentralization, both of which are heavily contested issues.

**(vii)** ***Efforts to improve public finance management must increase*****:** As outlined in Sections B and C***,*** a critical factor in shaping the structure and future of the economy demands divestiture away from state delivery, implying progressively contracting out. Unfortunately, given the size of the public sector and contention between centralized and decentralized power structures, meaningful functional restructuring has yet to occur. Lack of progress in strengthening PFM and failure to agree on functional assignments across the four tiers of state structures (by production and provision functions) undermine economic policy in practice. Moreover, with many of the provinces (in particular Basra) charting their own paths towards economic development (financed through fiscal transfers from the center), engaging with the provinces provides alternative entry points for external assistance.

Central to the findings and recommendations presented in Section C is an implicit understanding that changes in spending priorities will need to take place in order for Iraq to encourage the establishment of a vibrant market economy, where the private sector progressively emerges as the primary driver of growth and employment. Currently however, based on review of the composition of public spending between 2003 and 2011, there are a number of inherent contradictions between stated (***de***

***jure***) government policy and actual (***de facto***) policy in practice as seen through actual appropriations. Prior budget laws (as summarized in Section C) highlight that:

- Support for SOE financing continues;
- Public sector staffing and recurrent costs have more than doubled since 2005;
- Government continues to provide subsidies, including zero rate finance through state owned banks;
- Contracting out of works, supplies and services is not being encouraged through changes in public procurement; and,
- Fiscal stabilization and sector expenditure frameworks are still to be established.

It will therefore be essential for Government to identify the budgetary implications of proposed corrective measures, making sure that public spending does not crowd out the private sector.

**(viii) As demonstrated in Section B, there are areas of discrepancy between stated and actual economic governance:** In the absence of a clear economic growth and poverty reduction strategy, and with the NDP heavily focused on building growth from within existing systems rather than by modernization, the major structural discrepancies between *de jure* and *de facto* realities can best be described as follows:

- Fiscal stabilization measures have still to be established meaning that international oil prices determine expenditure pathways;
- Move towards a more liberal economic stance impeded by bloated public sector and mixed economy and reluctance by many sectors to translate such a policy into practice;
- NDP provides a laudable statement of investment intent which is difficult to meet in practice, given fragmented budgetary systems, lack of costed sector strategies and poor linkage between plans and actual (evidence-based) constraints impeding private sector driven growth;
- NDP sector-level objectives (e.g., health, education, water and sanitation) are quite general and lack timeframes, which makes evaluation of progress difficult;
- Given the central place of agriculture, investment in strategic water governance (trans-boundary and internal) falls short of investment requirements; and,
- State-centric service delivery models (for example in freight) continue to persist.

***Question 2*: To what extent do GoI economic priorities conform with or diverge from generally accepted economic principles particularly regarding the constraints to and drivers of broad-based economic growth?** See Section A, Part 3.2 and Section B, Parts 4.2 and 5.3 for a detailed response to this question.

(i) ***Development priorities are generally consistent with accepted economic principles but legacy fiscal and administrative practices undermine stated principles in practice***. What is lacking, but improving, is data and analytical and diagnostic work to drive informed policy, much of which would lead to restructuring the public sector towards what might best be described as 'new public sector management' principles.

(ii) ***While the commitments articulated in the NDP are largely pro-market, statist approaches are still present impeding growth and employment***. Current GoI management of the economy often perpetuates state-centric approaches to economic management. The fragmentation of the national budget (there is no unified budget) undermines using the budget as the central tool of government policy. Furthermore, the increasing dominance of the oil economy has also perhaps even contributed to a lack of GoI commitment to fostering an environment that will allow

the private sector to flourish, with inefficiencies being masked and perverse incentives allowing old service delivery models to be continued.

(iii) ***The burgeoning size of the public sector, and the costs of its sustainment crowd out the private sector and much needed capital investment.*** Instead, the public sector continues to grow and civil service management laws making hiring easy and firing difficult. In the absence of a more robust private sector, or a more progressive policy of right-sizing and contracting out, many of NDP's goals—strengthened diversification, increased productivity, increased employment, reduced poverty—have little chance of being fulfilled.

(iv) ***A prohibitive business environment greatly inhibits both foreign and domestic investment***. Diversification of the economy and the strengthening of the private sector are not proceeding satisfactorily, and even though the Iraq Public Sector Modernization program is central to such a success, the program is not deployed into economic ministries. As a result, none of the essential economic decision-making units of government have been through systematic functional restructuring, meaning that in most cases a more liberal economic policy intent is merely being sprinkled on top of legacy (and often moribund) statist structures.

(v) ***The Assessment Team undertook a more thorough constraint analysis for nine economic activities identified in cooperation with Prime Ministers Advisory Commission (PMAC)***. The Table below provides a summary key observation for each sector but a fuller treatment of all of these activities can be found in Annex A. What is clear from the sector findings is that many of the key constraints to growth provided here can be classified as:

- Practices that re-enforce mixed-economy and state centralist practices;
- Institutional (functional mandates, staffing) and regulatory and environment constraints;
- Insufficient capital spending and still limited access to finance, credit and power;
- Weak framework for public private partnership arrangements;
- Marketing, business development, technical input and other economic constraints; and,
- General sector governance constraints.

| **Constraint Analysis of Key Economic Sectors** | |
|---|---|
| **Activities** | **Constraints** |
| **Electricity** | ▪ Fuel Supply for Generation<br>▪ Regulatory Obstacles for MoE<br>▪ PPP Capacity<br>▪ Labor Force Skills<br>▪ Funding and Budgeting<br>▪ Tariff Reform |
| **Water** | ▪ Water Supply Governance<br>▪ Water End User Practices<br>▪ Water Supply Infrastructure<br>▪ Tariff Reform<br>▪ Wastewater Governance<br>▪ Shatt Al-Arab Marshland Ecosystem |

| | |
|---|---|
| **Freight and Logistics** | ▪ Port Governance<br>▪ Road Conditions and Management<br>▪ Freight Procurement & Logistics<br>▪ Regional Integration<br>▪ Labor Force Skills |
| **Oil & Gas**[2] | ▪ Ministry Management and Accountability<br>▪ Retailing of Petroleum Products<br>▪ Refining Capacity<br>▪ Legal Framework |
| **Greenhouse Horticulture** | ▪ Irrigation Practices<br>▪ Access to Credit<br>▪ Processing and Cold Chain Capacity<br>▪ Agricultural Technical Knowledge<br>▪ Input Supply and Quality |
| **Housing and Light Construction** | ▪ Labor Force Skills<br>▪ Access to Credit<br>▪ Land Markets<br>▪ Access to Input Materials<br>▪ Permitting Environment |
| **Health** | ▪ Health Governance<br>▪ Management Information System<br>▪ Health Finance<br>▪ Human Resource Capacity<br>▪ Equipment and Medicine |
| **Education** | ▪ Facilities and Equipment<br>▪ Education Governance<br>▪ Teacher and Administrative Capacity<br>▪ Higher Education Curricula<br>▪ Evening Education for Literacy<br>▪ Vocational Education |
| **Tourism** | ▪ Accommodation Capacity and Quality<br>▪ Labor Force Skills<br>▪ Permitting Environment<br>▪ Access to Credit<br>▪ Tourism Governance<br>▪ Marketing and Promotion |

(vi) ***The mix of new investment policy on top of outdated institutional structures is hurting the pace of private sector driven growth***. Based on a normative framework of 'new public sector management', around which market-based institutions are established and regulated, a clear problem in Iraq is a lack of clarity around such delineation. As a result, there is still a perception within the public sector that the government must deliver all services. Procurement rules (contracting out) and the identification and removal of binding constraints to growth (capital, regulatory burden, labor, natural resources and finance) are poorly identified in the core sectors. Moreover, government ministries are not clear on the overall investment policy for each sector (because there is no overarching economic policy) and market-based approaches are therefore not being entertained as a viable option.

***Question 3*: Given the above, how might the GOI proceed, given the accepted strategies for broad-based economic growth, taking into consideration interests and actions of donors, the private sector, and other pertinent actors in the economy?** Section A (Part 3.3), Section C and Annex A provide a detailed analysis and evidence in response to this question.

(i) ***The GOI should consider strategic investments that maximize the rate of return on broad-based (inclusive) growth, economic diversification and employment***

[2] Focused on capacity building within the MoO, refining capacity; distribution and retailing.

***and poverty reduction***. For this to occur, the GOI needs to identify entry points at the cross-sector and sector level, and to focus on influencing the way government does business. This implies, therefore, not only shaping government economic policy, and the institutional environment within which sector governance is provided, but also influencing the composition of government spending to meet such objectives.

(ii) ***Key findings outlined in Section A, Part 3.3 are bulleted below, and these then constitute the major areas of investment that scarce resources should be focused on***:

- Strengthen general systems of economic and sector governance including transparency in natural resource management;
- Build human capacity within ministries through civil service reform;
- Strengthen investment environment;
- Develop sustainable financing mechanisms for all core services (water, electricity, roads, health);
- Strengthen technical skills to increase productivity; and,
- Strengthen capacity to produce higher value products (horticulture, petrochemicals).

(iii) ***Engagement and investment protocol are critical to success.*** The GOI could best engage with the donors by focusing on those areas (i) where assistance will reduce or remove constraints to broad-based economic growth and (ii) where the GoI and donors are in strong agreement on the form and scope of targeted assistance. However, identifying strategic investments that sequentially remove the command control elements of the economy (SOEs), which are often highly politicized and centralized, will be difficult to achieve, undermining attempts at broad-based growth and economic diversification which are central to the NDP. The highest executive authority in the GoI, will need to be carefully engaged for such restructuring to take place. Retrenchment of public service employees will also be required.

(iv) **A clear sector focus for GOI support (emerging from analysis provided in Sections B and C) has also emerged.** Following the diagnostic of the nine economic activities discussed in Section A, Part 3.3 (Question 3), a meeting with PMAC was convened to discuss GOI priorities for future investment. PMAC's opinion was that donor efforts ought to focus on the following six activities, and the following Table outlines investment priorities within each sector.

- Water;
- Freight and Logistics;
- Greenhouse Horticulture;
- Housing and Light Construction;
- Health; and
- Education.

| Economic Activities, Development Initiatives and Possible Benefits | | |
|---|---|---|
| **Activities** | **Initiatives** | **Benefits** |
| **Water** | • Water Supply Governance<br>• Water End User Practices<br>• Water Supply Infrastructure<br>• Wastewater Governance<br>• Shatt Al-Arab Marshland Ecosystem<br>• Tariff Reform | • Reliable and clean water supply would<br>– Strengthen agricultural and industrial productivity<br>– Increase household health and livelihoods<br>– Increase trust in the government<br>– Increased usage fee collection |

| | | |
|---|---|---|
| **Freight & Logistics** | • Port Governance<br>• Road Conditions and Management<br>• Freight Procurement & Logistics<br>• Regional Integration<br>• Labor Force Skills | • More efficient freight and logistics would<br>– Lower the cost of almost all goods and services<br>– Increase trade competitiveness<br>– Promote greater economic and political cohesion |
| **Greenhouse Horticulture** | • Irrigation Practices<br>• Access to Credit<br>• Processing and Cold Chain Capacity<br>• Agricultural Technical Knowledge<br>• Input Supply and Quality | • Expansion of greenhouse horticulture would<br>– Boost income and expand employment opportunities for rural farmers<br>– Import substitution, improving the trade balance<br>– Reduce water use by the agriculture sector |
| **Housing & Light Construction** | • Labor Force Skills<br>• Access to Credit<br>• Land Markets<br>• Access to Input Materials<br>• Permitting Environment | • A reinvigorated housing and light construction sector would<br>– Address the 3.5 million housing shortage<br>– Increase employment<br>– Have a large multiplier effect |
| **Health** | • Health Governance<br>• MIS<br>• Health Finance<br>• Human Resource Capacity<br>• Equipment and Medicine | • A better working health sector would<br>– Meet a basis social need<br>– Decrease rates of morbidly and mortality and increase the wellbeing of households<br>– Increase economic productivity |
| **Education** | • Facilities and Equipment<br>• Education Governance<br>• Teacher and Administrative Capacity<br>• Higher Education Curricula<br>• Evening Education for Literacy<br>• Vocational Education | • A literate and skilled population would<br>– Provide workers essential to Iraq's balanced economic growth<br>– Increase economic productivity |

(v) ***Each of the target areas agreed to with PMAC corresponds to a GoI priority activity as established by the NDP***.[3] Given Iraq's positive macro-economic forecasts, and the positive fiscal balance, donor support should logically focus on the provision of technical advisory services rather than on capital-intensive investment in infrastructure. Such support would focus on removing primary cross-sector constraints (lack of a cohesive economic policy linked to liberal market planning and budgeting processes) and sector support to remove key sector impediments. Impediments to be addressed would be those preventing the economy from reaching its full potential (e.g., improving access to market based finance, setting regulatory standards and building oversight and enforcement capacities, etc.).

***(vi) Future GoI engagement with donor community should include joint work on the following key scope enhancements:***

- ***Economic policy formulation***: Critical to long-term success in economic governance is the formulation of a national economic policy, which clearly outlines the roles of the

[3] The NDP addresses the agriculture sector in general but does not list Greenhouse Horticulture as a specific priority activity. The Economic Assessment focused on Greenhouse Horticulture because this activity offers potential to address both systemic (e.g., water), and productivity (e.g. agriculture) constraints to the Iraqi economy.

public and private sectors, the restructuring of parastatal bodies, the roles of provinces and the key enabling measures to be pursued;

- ***Moving from service delivery production to provision support functions***: Strengthening the focus of investments less on service production (delivery) but more on service provision (governance) functions and the enabling environment (policy);
- ***Strengthen provincial engagement***: Given the increasing autonomy of provincial authorities, re-focus efforts to strengthen sub-national enabling environment reforms;
- ***Strengthening public sector management***: In the absence of functional restructuring, old administrative structures and systems will be unable to embrace a greater role for the private sector. Programs could focus more on delimiting public functions, contracting out, SOE restructuring, leasing market development, and changes to administrative law and decision-making functions to create space for the private sector; and
- ***Public finance management***: As outlined in Section C, oversight of the national budget process, by the Council of Representative, is critical to guaranteeing that the Executive implement policies approved by civilian oversight. The PFM system needs to be integrated, sector policies costed following functional reviews, and clear investment strategies for the sectors developed. These activities could be included in health, justice, agriculture and other focal donor programs.

***(vii) A strong relationship with government leadership is the critical enabler for investment success:*** *Programs should focus on removing primary sector constraints but only once a clear economic policy framework has been established. Critical to long-term success will be making sure that the spoils of higher oil prices are not squandered, or that a positive fiscal balance does not inhibit reforms, but rather that the government embraces change now as a necessity to guarantee future prosperity. Finally, many of these identified constraints, and proposed corrective measures, should be the basis for an open dialogue with the PM's office, PMAC, MoF and MoP, and the recently established Higher Committee for the preparation of National Development Plan (2013-2017), as well as the core economic ministries around which targeted donor investment can maximize the impact of scarce resources on inclusive and diversified growth futures.*

# *SECTION A - OVERVIEW, METHODOLOGICAL APPROACH & SUMMARY OF FINDINGS*

# 1. **Overview**: *The Dangerous Setting*

*Avoiding the so-called '**resource-curse**' or '**paradox of plenty**' must remain a primary concern for the Government of Iraq if it is to learn from the successes and failures of other countries experiencing a major boom in non-renewable resource exports.[4] So far however, despite controlling recurrent spending in 2011, Iraq's growth path is on a dangerous trajectory that has political, economic and societal risks.*

*Iraq is a resource-rich country. With oil reserves estimated at 143 billion barrels; Iraq is third on the list of countries with the largest reserves after Saudi Arabia and Canada. Paradoxically, whilst oil remains the major economic comparative advantage of Iraq, that resource wealth is also a threat to its democracy. Iraq's oil income, which is the key driver of long-term development, therefore, also stand*s as an impediment to sustainable growth. **Iraq is at a crossroads.**

Democracies place pressure on national leaders to create an economy that will deliver improvements in livelihoods, through the equitable redistribution of national resources. Inclusive or broad-based growth demands such transparency. In post-conflict settings, normal economic processes are generally incoherent. Markets are dysfunctional and often combat and coping economies dominate activity. With a small and undeveloped private-sector, citizens necessarily look to the government for relief. Public-sector jobs provide that**.** But public payrolls consume government revenues that ought to be devoted to public investments in highways, communications, electricity supply, water and sanitation, schools, and public health. **Economic dysfunction short-circuits necessary investment**.

- Government employment as a share of total employment rose from 28 percent in 2005 to 43 percent through 2008; and,

- In 2012, SOEs will receive salary subsidies in excess of $3 billion, in addition to indirect subsidies through low energy prices.

***Poorly managed oil growth can further crowd out the private sector:*** Abundant resource wealth is dangerous because once it is devoted to job creation in the public sector it becomes difficult for governments to re-direct those funds to investments that require political patience until the benefits begin to appear. **Short-run political expedience feeds on long-run economic coherence**. Furthermore, with the civil service law making it difficult to downsize the public sector, ***putting a freeze on salary increases*** and considerations for ***a retrenchment program of some sort*** become the only possible way to increase non-recurrent spending. Currently, with every new public sector employee appointed, the long term recurrent costs and pension liabilities undermine growth futures, which must be heavily driven by capital investment and diversification policies.

***Some groups' capture of oil wealth further accentuates fractures:*** A second danger in large infusions of oil income is that it drives a wedge between political leaders and the citizenry. Effective democracies require a functioning "tax bargain." Citizens agree to pay taxes in exchange for certain benefits—highways, schools, national defense, reliable and safe water. When governments do not meet the expectations of their citizens, the tax bargain is violated. Those who pay taxes have a credible means to challenge government incompetence and indifference. When citizens are not expected to pay for government

[4] The resource curse (Paradox of Plenty) refers to the paradox that countries and regions with an abundance of natural resources, specifically point-source non-renewable resources like minerals and fuels, tend to have less economic growth and worse development outcomes than countries with fewer natural resources.

services they value, it cannot be a surprise that governments find it easy to disregard the demands of the citizenry. Democracy is not just about voting—it is about an implicit contract between those who govern, and those who are governed. **There is no tax bargain in Iraq**.

***Oil wealth can create significant economic and market distortions:*** Finally, enormous oil wealth produces yet a third problem. Iraq has the highest rates of energy subsidies in the world, approaching 30 percent of GDP in 2012. Large infusions of foreign exchange distort economic relations so that prices, wages, interest rates, and savings become distorted. These distortions are more pronounced when the private sector is comprehensively dysfunctional. **Economic incoherence compounds the manifold dangers of the resource curse**.

***Iraq therefore represents the perfect trap:*** (1) a former planned economy with scant cultural and practical experience with a market economy; (2) a nascent and dysfunctional market struggling against comprehensive incoherence; and (3) annual flows of income from oil sales that approached $80 billion in 2011. **This is an exquisite recipe for political and economic chaos.**

The current struggles in Iraq have nothing to do with the standard narrative of the region. If there were no oil income on offer, various groups would get on with life. But with the prospect of annual oil revenues approaching $300 billion in another 10 years, the political stakes are unprecedented. The future is suddenly worth fighting for. Struggles for control of the machinery of state pay large rewards because mobilizing the monopoly on capital accumulation is central to state control.

The fundamental challenge for international donors in Iraq is therefore to escape the deceit that the purpose of donor assistance is to fight poverty. Poverty in Iraq is not the primary problem. The core problem in Iraq is that **there is no coherent market economy that provides long term growth security and inclusive benefits—it must be created**. The longer the market remains dysfunctional, the greater the peril that political fighting will escalate, and the greater the scope for serious harm from the infusion of oil wealth.

# 2. Methodological Approach

***The overall methodological approach adopted for the assessment employs a number of normative analytical tools, and included a general economic assessment, economic diagnostic and institutional analysis***. Not only did this provide for comprehensive insight into the drivers of growth and binding constraints affecting the wider economy and key sectors, it also allows the policy and institutional environment to be critically assessed. The overall assessment was therefore structured around three key Phases, with each Phase providing evidence to inform the next phase, leading to a set of evidence-driven findings and recommendations.

***Phase I: Economic Assessment***: The team conducted an assessment of the general economic (macro and micro) situation in Iraq, of economic trends and performance, as well as targeted assessment of important constraints impeding economic performance in 8 key sectors ("economic activities"). Sectors were selected based on four key criteria: (i) the importance of the activity to Iraq's economic future; (ii) the potential impact of reform on productivity and growth within the activity; (iii) the extent to which the impediments to productivity and growth in the activity apply to those in other activities; and (iv) how susceptible the impediments to productivity and growth are to ameliorating investments or policy reforms. The assessment therefore identified economic activities that imposed the greatest potential harm on the performance of the economy. The shadow value of these activities is high—and negative. Removing these particular impediments to performance will pay large dividends.

***Phase 2: Economic Diagnosis***: The team undertook a detailed economic **diagnostic** to identify, for these economic activities, the most significant binding constraints currently impeding job creation, productivity and economic growth. The diagnostic approach then identified the causes of those constraints. Identification of those causes led to detailed analysis concerning which of the many causes would, if eliminated, produce the greatest gain in improving the performance of the economic activity. The diagnostic rationale implicit in the diagnostic undertaken is therefore as follows:

- Eliminating ***causes*** is instrumental to eliminating constraints;
- Eliminating ***constraints*** is instrumental to economic rehabilitation in each activity;
- Economic ***rehabilitation*** in economic activities is instrumental to providing market-based (private-sector) employment, livelihoods, and a sense of participation in the economy, essential for economic revitalization; and
- A ***revitalized economy*** is instrumental in creating tangible benefits such as reliable water, electricity, housing, vibrant horticulture and improved health care (for example).

***Phase 3: Findings and Recommendations***: The team identified **findings and recommendations,** based on the results of Phase I and Phase II work, which offer clear guidance to both donors and GoI decision makers concerning which priority policy reforms and targeted investments will remove the binding constraints to growth, thereby maximizing improvements to economic efficiency, productivity, job creation and economic growth.

The findings and recommendations acknowledge that establishing a market economy from the current highly state-centric model will take many years, and requires that budgetary resources are deployed to shape a growth future where (i) the percentage of non-oil to oil

production increases over time and (ii) recurrent spending is controlled. A revitalized market economy will also eventually draw employment away from the bloated public sector, thereby avoiding the destabilizing effect of reducing public-sector employment in the absence of a functional private sector. The government must lead the adoption of the proposed corrective measures given its central role in the economic revitalization process.

# 3. Research Questions

The Economic Assessment was conducted to answer three core research questions. The analytical and diagnostic work has therefore been structured to answer these questions, by employing the methodology outlined in Section 2 above, posed as follows:

1) Describe current economic development priorities of the Iraqi government and note discrepancies between stated goals and actions;

2) Assess whether these economic development priorities conform to or diverge from accepted economic principles regarding the constraints to—and drivers of—broad-based economic growth; and

3) Describe how the Government of Iraq might proceed given the accepted strategies for broad-based economic growth, taking into consideration interests and actions of other donors, the private sector, and other pertinent actors in the economy.

The following section (Sections 3.1-3.4) constitutes a summary of technical responses to the questions raised. The responses are extensively drawn from Section B and technical annex of this report, which provide the results of economic assessment and diagnostic work. As appropriate, the reader is referred to these sections and Annex A for supporting data and analysis.

## 3.1 QUESTION 1: IDENTIFICATION OF CURRENT ECONOMIC PRIORITIES

> *WHAT ARE CURRENT GOI ECONOMIC DEVELOPMENT PRIORITIES? HIGHLIGHT ANY DISCREPANCIES AMONG DOCUMENTATION OR BETWEEN DOCUMENTATION AND ACTION.*

The National Development Plan for the Years 2010-2014 (NDP) was prepared to guide Iraq's national investment prioritization through the year 2014. In this and the following questions, the Assessment Team uses the NDP as a basis to analyze current GoI priorities and the degree to which progress is being made in achieving them.

The NDP establishes nine Strategic Objectives (pp. 24-25):

i. GDP growth of 9.37% across the plan period;
ii. Diversification of the economy and growth of the private sector;
iii. Increased economic productivity;
iv. Increased employment, particularly among youth and women;
v. Increased provision of water and sanitation;
vi. Poverty alleviation and provision of basic social services to the poor;
vii. Reduced disparities among provinces through geographically balanced distribution of infrastructure, social services and suitable housing;
viii. Reduced disparity between rural and urban life in terms of availability of infrastructure, social services and employment opportunities; and,
ix. Increased acceptance and implementation in urban and rural planning of the principles of sustainable development and quality of life.

## GoI Stated Priorities vis à vis GoI Actions

- **GoI capital budget is adequate**
- **Projected private investment is unrealistic; actual investment is significantly lower than projected (e.g., energy generation, housing)**
- **Oil production is rising rapidly**
- **Electricity generation is not increasing rapidly enough; lack of fees makes it unsustainable**
- **MoA is resistant to liberalization**
- **Health outcomes are improving but MoH is still severely under-staffed**
- **Education still suffers from lack of teachers and infrastructure**
- **Bureaucracy and limited credit inhibit the development of housing**
- **Water governance and finance are inadequate**
- **State-centric models to freight persist**

***Verifiable NDP targets were not clearly set, which impedes an assessment of NDP progress.*** Only for one of these objectives has a specific quantitative target been set: GDP growth of 9.37 percent per annum.[5] The generality of the NDP strategic objectives renders evaluation of progress difficult and most of the sector targets have not been costed. One approach to gauge NDP effectiveness, however, is to ascertain if it has been used to prioritize public investment and to determine whether the level of private investment it projected actually materialized. To meet the Strategic Objectives, the NDP called for 30 percent of GoI budgets to be allocated toward capital expenditures and it also set sector splits for recurrent and capital cost financing. For the NDP, this public investment was intended to constitute 53.8 percent of total investment and the balance would be filled by domestic and foreign private sector investment.

***Capital budget spending has increased significantly and is up against NDP proposed allocations, although low budget execution continues to be a problem***. NDP projected government investment of 17.5 trillion ID in 2010 and 20.3 trillion ID in 2011.[6] Actual government investment exceeded this in both 2010 when government planned investments totaled 20.2 trillion ID and in 2011 when they reached 30.1 trillion ID. Similarly, for 2012, the NDP projected public investments at 23.7 trillion, but the proposed budget sets investments at 37.2 trillion (**Figure 1**). The substantially higher budgets can be explained largely by the fact that GoI budgets have risen much more rapidly than the NDP anticipated due to buoyant global oil prices. If analyzed from the perspective of NDP's assumption that capital spending should constitute 30 percent of the total budget, then these budgets measure up quite well with 2010 investment at 28 percent; 2011 investment at 31 percent; and 2012 proposed investment at 32 percent. Thus, on the aggregate level, the GoI appears to be fulfilling its commitment toward capital investment. One issue of concern, however, is that GoI absorptive capacity appears to be inadequate for the management of such rapidly rising budgets. In fact, investment budget execution has plummeted from 89 percent in 2009 to 78 percent in 2010 and to an estimated 33 percent in 2011.

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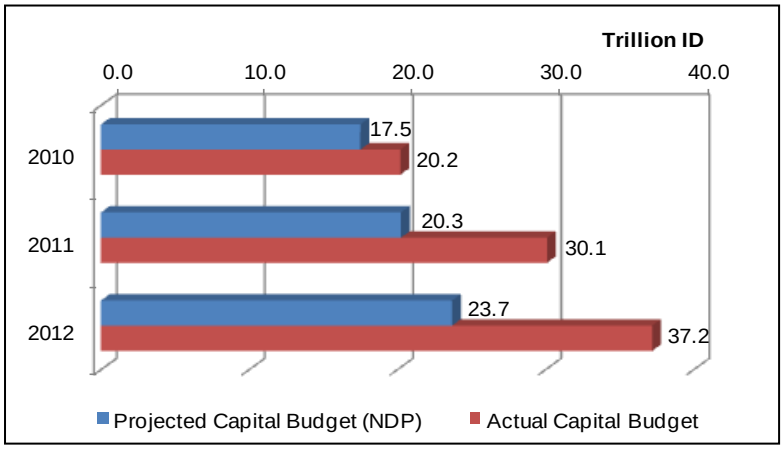
[5] The Executive Summary version of these Strategic Objectives (pp. 17-18) differs a bit from the one in the main body of the text (pp. 24-25). The Executive Summary version includes two other quantitative targets – "Generate 3 to 4.5 million new jobs" and "Reduce poverty rates by 30 percent from 2007 levels." Oddly the two lists differ with points 5 and 8 in this list being replaced by one objective focusing on increasing foreign and domestic investment and a second objective focused on strengthening local governments.

[6] This is calculated by taking 30 percent of NDP's projected revenue for these two years.

### Figure 1: NDP GoI Investment Targets and Actual Investments (2010-11)[7]




***Private investment is significantly below NDP forecasts.*** According to NDP assumptions, private foreign and domestic investment should have contributed an additional 15.1 trillion ID in 2010 and 17.4 trillion ID in 2011. According to the IMF, private investment in Iraq for 2010 and 2011 was 3.9 trillion ID and 5.5 trillion ID, respectively. This suggests overly optimistic assumptions, which raises questions about whether NDP's objectives can be realized. It also points to key factors in the Iraq political economy that inhibit investment despite the enormous opportunities present in Iraq, which are discussed under Question 2 and even more fully in **Section B**. The Iraq Doing Business Index, showing results for 2011 and 2012, highlights that in most cases Iraq's ranking is worse in 2012 than in 2011.

### Table 1: Iraq Doing Business Index Results (2011-12)

| Area | DB 2012 Rank | DB 2011 Rank | Change in Rank |
|---|---|---|---|
| **Starting a Business** | 176 | 174 | **-2** |
| **Dealing with Construction Permits** | 120 | 114 | **-6** |
| **Getting Electricity[8]** | 46 | 47 | **1** |
| **Registering Property** | 98 | 95 | **-3** |
| **Getting Credit** | 174 | 170 | **-4** |
| **Protecting Investors** | 122 | 120 | **-2** |
| **Paying Taxes** | 49 | 46 | **-3** |

[7] Data is drawn from information provided by GoI. The "Actual Capital Budget" for 2012 is the budget that has been proposed.

[8] This indicator refers to the ability of a warehouse to obtain a connection to the national grid. In Iraq the vast majority of households and firms are connected to the national grid or could obtain access with relative ease. The problem is that the Ministry of Electricity is only capable of meeting 50 percent of the power demand and provides electricity only 8 hours a day on average.

| | | | |
|---|---|---|---|
| **Trading Across Borders** | 180 | 180 | No change |
| **Enforcing Contracts** | 140 | 140 | No change |
| **Resolving Insolvency** | 183 | 183 | No change |

***Iraq does not utilize policy-based budgeting and as a result allocating government spending to policy objectives is currently not possible***. An analysis of aggregate spending provides only a very broad picture of GoI's investment priorities. Further analysis is required at the activity level to assess to what extent NDP's objectives are being realized. The NDP listed six priority activities for GoI development initiatives. These priority activities largely overlap with those analyzed under Economic Assessment's "Status Report on Key Economic Activities" in **Annex A**. The findings of these studies will be used to assess GoI's progress in meeting the NDP Objectives.[9] The NDP priority activities are as follows:

(1) Crude Oil Extraction
(2) Electricity
(3) Agriculture
(4) Social Development Services (e.g., Health, Education, Housing)
(5) Transportation
(6) Conversion Industries

***Objective measures of progress in fulfilling NDP sector objectives are often lacking.*** The NDP established "Objectives" and "Means of Achieving Objectives" for each of the priority activities. Although the "means" varies by activity and objective, broadly they include investment in infrastructure, capacity building, institutional reform and market reform. However, because the sector-level "Objectives" and "Means of Achieving Objectives" are often quite general in nature and typically lack timeframes, measuring progress will necessarily be qualitative. Hence, the evaluation highlights on an activity-by-activity basis whether GoI policies and investment decisions broadly align with the NDP and are sufficient to meet the stated objectives.

[9] The Economic Assessment addressed greenhouse horticulture and not the entire sector. Similarly, the assessment focused on freight and logistics activities within the transport sector and did not cover passenger travel as did the NDP. The detailed evaluations are contained in **Annex A**.

## 1. Oil and Gas and Conversion Industries

***Oil production and exports are substantially up***. The GoI has made substantial progress in increasing oil and gas production as well as exports. Production reached 2.8 mbd by the end of 2011, which is up from 2.0 mbd in 2004. Exports also rose to 2.2 mbd by the end of 2011. The NDP objectives of 4.1 mbd production and 3.1 mbd exports by 2014 are plausible, but will require the GoI to improve visa issuance procedures for workers and importation of equipment needed by the oil companies to expedite new oil field development. Escalation of violence could also have serious impacts on construction schedules. Similarly, delays in expanding export terminals to accommodate increased production could impinge on efforts to reach NDP objectives.

***Private sector flows to the petroleum sector have been a key driver of growth***. The level of investment appears to be sufficient and is unconstrained by GoI budgets since FDI is poised to provide much of the future investment needed to meet NDP objectives. Nonetheless, GoI spending remains high, with proposed budget for 2012 set at 10.7 trillion ID, which at 28.6 percent of the capital budget is far higher than the 15 percent envisioned by the NDP. The GoI has opened up existing - and new - fields to foreign investment through Technical Service Contracts (TSC) and this approach has brought much-needed expertise to the activity and helped reverse declining production at existing fields. The GoI has also signed a major agreement with an international oil company to have it build the infrastructure to start capturing significant amounts of natural gas that is currently flared. This contract could eventually lead to increased fertilizer and petrochemical production.

***Despite some progress, the Ministry of Oil and its subordinate SOEs are performing sub-optimally and lack the technical capacity to monitor large contracts***. Bureaucratic inefficiencies lead to delays in imports of necessary equipment and prevent the hiring of skilled workers. Although not explicitly covered by the NDP, the retailing of petroleum products remains dysfunctional and the refining sector is unable to meet domestic demand for gasoline, kerosene, or propane. There appears to have been no movement to liberalize or privatize this activity.

***In summation, there has been*** (i) progress in increasing production and exports (ii) outsourcing to private industry for production has been critical to improved performance (iii) but refining and retailing of petroleum products remains constrained by failures to bring in private investment. Inefficient management of the sector might still prevent longer-term goals from being met. For a fuller description of the challenges facing the oil and gas sector, see **Annex A.2**.

## 2. Electricity

***Quantitative measures of improved electricity provision require further work***. The NDP establishes nine objectives for electricity that center on providing Iraqi citizenry with full and reliable electricity service. The objectives are largely qualitative (e.g., "stabilize the electric current and increase reliability"), making evaluation of progress difficult. The Ministry of Electricity (MoE) has prepared a mid-term strategic plan that covers the period 2011-2015 that contains the elements needed to meet the NDP objectives. Its overarching goals are in harmony with the NDP.

***Actual electricity sector investments are substantially behind needs***. According to the MoE's mid-term strategic plan, the estimated cost for achieving full power coverage by 2015 is approximately $31.8 billion over 5 years, including about $1 billion annually to import supplemental electricity. Investment has not been adequate to meet the required expenditures to rebuild the generation, transmission and distribution infrastructure. MoE's capital budget for 2011 was $3.2 billion and its proposed capital budget for 2012 is $4.1 billion, which at 12.8 percent of the capital budget is higher than the NDP allocation of 10 percent. The shortfall appears to be in private investment, since the NDP assumes that the private sector will provide roughly half of investment. There have been attempts to create new generation capacity through the use of Independent Power Producers, but these have not been successful, so current plans involve adding capacity strictly through public sector operated power plants. Current public expenditure levels will not be sufficient to meet NDP goals.

***The MoE has not achieved the objectives set out by the NDP.*** For example, while it has begun repairing some of the existing stations, it has accomplished little in rationalizing energy usage rates, expanding use of alternative or renewable energy, or setting strict monitoring mechanisms to improve efficiency in energy consumption. Failure to have tariff rates that allow for cost recovery means that existing MoE budgetary subsidies will increase as the customer base grows. In short, while the MoE has achieved some progress in increasing electricity supply during the past eight years, it still falls far short of providing reliable power and its current operational structure and inadequate budget means it is unlikely to meet even the general objectives set out by the NDP. For a fuller description of the electricity activity, see **Annex A.3.**

## 3. Agriculture

***Lack of investment in agriculture over the past 20 years, and the fact that agriculture represents some 25% of employment highlights the primacy of this potential growth sector.*** For agriculture, the NDP includes five objectives related to water resources and land reclamation. These are principally focused on building new infrastructure and restoring dilapidated infrastructure. In addition, there are objectives related to crop production and animal production. Data are not available to assess progress in these areas. It is difficult to judge whether current investment in agriculture will be sufficient to fulfill the ambitious program set out in the NDP. For FY 2010, the capital budget for agriculture was $1.4 billion, which at 6.5 percent of the capital budget fell short of the 9.5 percent target called for by the NDP.[10]

***As to the means of achieving these objectives, the NDP has an extensive list of activities that suffer from the same level of generality discussed earlier***. The activities under the category "Support the Private Sector" demonstrate an understanding that current credit markets are not serving agriculture well. The GoI, however, continues to use state banks to offer subsidized loans, which create some of the distortions currently afflicting this sector (e.g., unsustainably low-interest loans; credit rationing). On the whole, MoA seems to resist receding so that the private sector can assume the lead in this sector. The NDP also recommends significant revisions in land law and policy but there is no evidence that anything has been done in this regard.

***Major strategic water resource management capacities are lacking, as are riparian agreements***. The category "Water Policies" includes measures such as drafting transboundary water agreements, advancing integrated water resource management (IWRM), expanding water infrastructure, and improving the efficiency of water use. There has been little progress in advance trans-boundary agreements, and the current political environment appears to make progress in the near future unlikely. Some progress has been made in advancing IWRM through some pilot projects, but these efforts need to be significantly expanded. As to improved efficiency in water use, this in large part assumes water user fees that incentivize conservation. The agriculture section omits the need for introducing a more rational tariff structure, although this is briefly addressed in a separate

[10] Agriculture investment in the NDP falls under the Ministry of Agriculture, the Prime Minister's initiative for water for irrigation, and the Agriculture Bank. FY 2010 is the most recent data that we have where NDP categories are adequately broken down.

section on the water sector. There appears to be little political will to raise water use fees, which raises questions about the sustainability of current infrastructure investments.

***Targets and reporting on the agricultural sector need significant strengthening.*** The measures mentioned under the category “Increasing Productivity and Improving Production” are too generic to be of use for evaluation. Iraq significantly lags the regions in its productivity, and this hinders its ability to feed its population and to produce commodities for export (see **Annex A.1**). As discussed in the “Greenhouse Horticulture” section, there are various constraints – some of them government induced – that need to be addressed to increase productivity.

## 4. Social Development Services

### *a. Health*

***The NDP states that the GoI is committed to a primary health care model consistent with international best practices***. This is articulated in MoH's Five-Year Strategic Development Plan and reflects GoI commitments to fiscal and administrative devolution embodied in the 2005 Constitution, the Provincial Powers Act and 2009 Budget Laws. However, MoH lacks a binding implementation plan to accomplish this change. Evidence, in fact, suggests that MoH initiatives are often changed by current political appointees.

***The NDP lists five objectives for the health sector, which center on increasing the number of doctors and increasing quantity and quality of health care facilities***. Public investment in health has grown dramatically with the proposed 2012 budget reaching $4.85 billion ($630 million in capital expenditures and $4.22 billion in operating expenses), constituting close to 5 percent of projected GDP. Nevertheless, this appears to still be inadequate to meet the targets set in the NDP. On a per capita basis, Iraq spent $179 in FY 2011, which is well below the MENA average of $539 (2009).

***The means for achieving these objectives are quite vague which makes measuring progress infeasible***. One set of activities is to strengthen integration between public and private sector health care provision. There appears to be little progress on this. The rapid growth of the private sector has exacerbated existing staff shortages at public clinics and hospitals, which are often underutilized as a result. In the absence of clear policies, a hybrid public/private system is growing with few boundaries in place to govern this relationship and with little oversight over private health care services.

***Another set of activities is directed toward increasing the quantity and quality of medical workers, both through education and through attracting medical workers who have migrated to return***. GoI does appear to be expanding the number of medical schools but much more is needed to meet the projected deficits (see **Annex A.6**). As to attracting medical workers back to Iraq, only a small fraction of emigrants have returned. Another line of initiatives in the NDP is directed toward improved management and finance of the health sector. MoH does appear to be moving forward on advancing quality management but this is an activity that requires much more attention as a decentralized primary health care approach is expanded.

### *b. Education*

***The NDP establishes a series of quantitative targets addressing enrollment levels and teacher-student ratios, as well as eradicating illiteracy***. While the education budget has expanded dramatically over the past 10 years from historic lows, the proposed budget for 2012 is $808 million, which at 2.5 percent of the capital budget is short of the NDP goal of 5 percent. Sector costing undertaken by MoE and the UN calls for a significant increase in spending, more in line with regional comparators.

***Inadequate expenditures as well as the lack of strong planning processes will likely prevent the GoI from achieving the NDP objectives***. There is a shortage of some 12,000 buildings needed to reduce average classroom size to 30 students. Urban classroom sizes are often double that total, while rural classrooms are even larger. With a rapidly growing population, and an increasing enrollment rate, the annual capital budget is barely sufficient to keep up with current demand, especially at the primary school level. Secondary school enrollments remain among the lowest in the MENA region but are increasing. Achieving secondary school enrollment targets will also put tremendous demand on available school space. Many primary and secondary schools operate on at least two shifts per day, with some schools operating on 3 shifts due to paucity of space.

***The GoI has not succeeded in correcting the key deficiencies in educational performance***. The Ministry of Education (MoE) is a highly centralized bureaucracy. Policy initiatives originate from headquarters with little or no input from the governorates or districts. Schools have little autonomy over budget or daily operations, including teacher hiring. Curricula are outdated and although a consensus on a new national curriculum has been reached, the MoE has yet to begin actual development of the curriculum.
***Education, especially primary and secondary education, has received increasing budgets in accordance with NDP objectives***. However, the failure to implement institutional reform and market reform in terms of bringing in private investment for operation and maintenance of school infrastructure will likely lead to GoI falling short of NDP objectives. The recruitment (doubling of teachers between 2006 and 2011), yet with Grade 12 deemed sufficient qualifications for a primary school teacher, outlines the need for significant in-service training. For a fuller description of the problems facing education, see **Annex A.7**.

### *c. Housing*

***Housing sector investment is guided by rather generic strategic objectives.*** The NDP lists seven objectives for the housing sector, all of which are quite general in character – raise the efficiency of producing houses, decrease overcrowding, increase government capability to meet housing needs of special groups, etc. Thus, this precludes a precise progress assessment.

***The NDP also lists numerous means for achieving these objectives.*** The role assigned to the public sector includes expected responsibilities such as master planning and providing housing for vulnerable groups, but also perpetuates a very centralized approach to housing provision through assigning the government the responsibility of controlling the cost of housing production and ensuring that supply meets demand. While the NDP envisions the actual delivery of housing through the private sector, such an expansive role for the public sector raises the real prospect that distortionary practices will continue which will prevent proper market signals from being emitted which will not allow the private sector to respond to the exploding demand for housing. To support the private sector, the government created the National Investment Commission (NIC), which was intended to accelerate the permitting process through serving as a one-stop shop, but it has not lived up to expectations as ministries have resisted letting it exercise its authority, which means that businesses are compelled to seek permits through each of the respective ministries.

***The NDP recognizes the need for increasing the availability of housing finance but there is little to indicate that it recognizes the constraints preventing the expanded availability of credit***. Currently, banks are risk averse and impose excessively burdensome collateral requirements. This is due to a number of factors -- high interest they can earn through lending to the central bank; limitations in their rights to reclaim collateral; and the absence of a secondary market for mortgages.

***Similarly, the NDP recognizes the need for reformed land management, which would free more land to be developed and would encourage the efficient use of land through vertical development***. Government efforts in this respect by all accounts have failed as the government has proven reluctant to release state land for development and the bureaucratic processes for receiving land continue to be onerous. For more information on the problems facing the housing sector, see **Annex A.9**.

### *d. Water*

***In addition to treating water under agriculture, the NDP includes a list of objectives for water services and for sanitation, each with a separate section devoted to a) non-Baghdad provinces and b) Baghdad Province, reflecting the existing governance division***. The objectives focus on broad goals of expanding water service; increasing water quantity and quality; improving sanitation quality; and reaching 100 percent coverage for sanitation services. Data are insufficient to evaluate progress in these areas and the role of the Ministry of Municipalities and Public Works in the areas of water and sanitation (WATSAN) delivery is heavily contested.

***The means for achieving these objectives can be divided into three categories – infrastructure, management and capacity building***. Roughly half of the means for objectives for both water services and for sanitation relate to the construction of new infrastructure or the rehabilitation of dilapidated infrastructure, which reflects well the serious gaps in infrastructure that need to be filled. The descriptions are too vague to judge what kind of resources would be required. For 2012, the proposed capital budget for MoWR is $838 million and for MoMPW is $1.4 billion. Without a further breakdown according to allocations, it is difficult to evaluate the adequacy of this budget.

***The NDP activities related to management and capacity building recognize the need to strengthen current management systems, improve laboratory capacity, and raise the capacity level of ministry staff so they can use updated technologies***. There is no mention of the decentralization of water management, despite a general government move toward devolution of power and ongoing MoWR initiatives to advance IWRM. Better delineation of authority between ministries and between federal and governorate levels of government is vital to improve Iraq's management of its water resources.

***For water services, the NDP also envisions a gradual removal of subsides for all except the poor***. Such a move will be important both for the sustainability of existing and planned infrastructure and in order to encourage more efficient water use, but evidence suggests that the political will is lacking to go forward with this, which raises questions about the sustainability of any infrastructure that is developed or rehabilitated. For a fuller treatment of the water sector, see **Annex A.4**.

## 5. Transportation

***The NDP establishes a broad range of objectives, with only a few establishing a quantitative target with a set timeframe***. The means for achieving these objectives are similar to those used for other activities, including increasing the role of the private sector, making strategic public investments, and carrying out institutional reform where applicable.

***The findings of the economic assessment indicate that the Ministry of Transportation (MoT) and its subordinate SOEs have been reluctant to carry out the types of reforms indicated in the NDP***. For example, the MoT retains monopolistic control of all government shipments of commodities. However, the MoT has an inadequate trucking fleet and contracts out shipments it cannot handle. In fact, only 900 out of 4,000 shipping directorate employees actually work because of the shortage of trucks. Rather than liberalize this activity, it appears that the MoT plans on acquiring additional trucks to keep this function within the public sector. Private sector companies have observed that outsourcing is not conducted in a transparent manner and that competition is precluded for most work. For more information on Iraq's freight and logistics sector, see **Annex A.5.**

***Similar failures to move forward on NDP goals are found at the country's ports, which still suffer from inadequate and outdated equipment, a poorly trained workforce, and overlapping operational authority among different ministries, which leads to significant and costly delays.*** The failure to clear channels that are blocked by sunken ships continues to seriously hamper port functions. Finally, the NDP calls for the reconstruction and expansion of the nation's road network. Even if Iraq allocates the necessary investments to rebuild the road network it will need to find revenues for maintenance through some type of user fee whether it be a toll system or a fuel tax as the NDP calls for. To date, the GoI has not initiated any type of institutional reform that would allow for such a program to develop or even be considered.

## 3.2 QUESTION 2: ECONOMIC ANALYSIS OF GOI PRIORITIES

*TO WHAT EXTENT DO GOI ECONOMIC PRIORITIES CONFORM WITH OR DIVERGE FROM GENERALLY ACCEPTED ECONOMIC PRINCIPLES PARTICULARLY REGARDING THE CONSTRAINTS TO AND DRIVERS OF BROAD-BASED ECONOMIC GROWTH?*

### ECONOMIC SOUNDNESS OF STRATEGIC OBJECTIVES

***The priorities of the National Development Plan are outlined in the nine Strategic Objectives, although as the national budget is not policy-based and no national programs have been formally established, tracking the impact of public spending on strategic objectives is a complicated endeavor:***

i. GDP growth of 9.37%
ii. Diversification of the economy and growth of private sector
iii. Increased productivity
iv. Increased employment, particularly among youth and women
v. Increased provision of water and sanitation
vi. Poverty alleviation and provision of basic social services to the poor
vii. Reduced disparities among provinces through geographically balanced distribution of infrastructure, social services and suitable housing
viii. Reduced disparity between rural and urban life in terms of availability of infrastructure, social services and employment opportunities
ix. Increased acceptance and implementation in urban and rural planning of the principles of sustainable development and quality of life.

***Economic Soundness of NDP***

- *Strategic Objectives are sound*
- *Stress on public investment is potentially distortionary*
- *Activity-level objectives mix market and state-centric approaches*
- *GoI favoring of SOEs is crowding out private sector*
- *GoI is increasing efforts to protect Iraq businesses*

***The Economic Assessment Team finds that these development priorities are consistent with accepted economic principles concerning the enhancement of economic performance, rural development, employment creation, the trade balance, and improved social outcomes.*** They address three profound needs in Iraq:

- Objectives #2, #3, and #4 will enhance the non-oil private sector so that its improved performance and productivity will complement the expected growth in oil income. Success on these matters will bring about balanced economic growth.
- Objectives #6, #7, and #8 will ensure that all regions in the country share in the general improvement in employment, household income, and social equity. Success on these matters will bring about integrated economic development.
- The goal of sustainable development is an ethical commitment that will guide all future economic and political action in Iraq.

***A deeper analysis of the economic soundness of GoI economic priorities requires also looking at how the GoI intends to achieve these objectives***. At the macro-level, NDP places a heavy emphasis on investment as the primary determinant of economic growth. The NDP gives GDP targets for each year. It also determines desirable rates of growth for different sectors of the economy and calculates the necessary volume of investment funds, based on an across-the-board capital-to-output ratio of 4:1. Such an approach is a bit simplistic since capital needs will depend on the sector in question. Also, for social sectors many of the NDP activity-level objectives will be fulfilled in part by increased operational expenditures, which will allow, for example, for the expansion of the number of teachers and health care workers.

***For the public sector, NDP calls for investment to be 30 percent of total budget expenditures.*** By international standards this proportion is high. Fiscally, however, such a figure seems realistic; particularly as actual government revenues continue to exceed budget projections. While laudable, there is a question as to whether such a level of investment could be effective given GoI's absorptive capacity. In 2010, the budget execution for capital expenditures was 77.5 percent. Significant increases in capital spending threaten to lower this level of execution if public sector management capacity is not increased.

***Finding that GoI resources will not be sufficient to cover the full amount of capital investment needed, the NDP states that an additional $86 billion "would (sic) be funded by the domestic and foreign private sectors," meaning that private investment is understood to constitute 46.2 percent of total required investment***. Given the current level of private investment ($4.7 billion in 2011) and an investment environment that is quite punishing, such an expectation appears to be overly optimistic. Even if NDP private sector investment projections were to be realized, a better delineation between by the NDP public sector and private sector investments is needed. Of total investments, the envisioned public (53.8 percent)/private (46.2 percent) proportion cannot be applied at the sector level, since some sectors have much greater potential to benefit from the private sector (e.g., oil, conversion industries) than other sectors (e.g., education, water). NDP's failure to better identify appropriate targets for public investment carries the risk that Iraqi government will perpetuate a more statist approach to sector growth.

***A more clearly articulated vision for private sector investment would also help prioritize government efforts towards creating the conditions to make private investment possible, which could dramatically expand investments into certain sectors***. For example, the substantial needs for expanding generation could be in part met through PPP modalities, which would lower up-front public investment requirements and thus stretch capital budget allocations. However, as described more fully in the electricity sector analysis in **Annex A.3**, to move in this direction the MoE needs expanded technical capacity to evaluate proposals, establish rates, and execute contracts, not to mention that the overall investment environment must be sufficiently strengthened in order to attract investment. To ensure that such an arrangement does not result in increasing the GoI's long-term fiscal burden, a plan for increasing user tariffs toward cost recovery would also need to be executed.

***One of GoI's overarching goals is the diversification of the economy. Iraq is second only to Angola in terms of oil's dominance in the economy***. The oil sector employs relatively little labor, so its growth does little to address Iraq's high unemployment. Consequently, diversification is vital for Iraq to achieve balanced economic growth. While the growth of the oil sector has been a boon in terms of Iraq's economic growth, trade balance, and fiscal balance, its growing dominance raises the threat of the "resource curse," which manifests itself a) politically in a government increasingly insulated from political accountability and b) economically in an elevated exchange rate that weakens competitiveness in non-oil goods. In fact, Iraq is already suffering from declining non-oil

exports and an increasing reliance on imports. A further consequence is that as oil revenues increase, the GoI will remain inclined to keep using these revenues to subsidize a broad array of unproductive activities along with food and energy commodities. While politically popular, this results in distorted markets and a public less willing to pay market prices.

***When moving to analyze at the activity level, the generality of the objectives makes evaluation of their economic soundness difficult***. For example, in the section on agriculture when the NDP calls "to support agricultural inputs and outputs" (p. 74) so that the private sector can compete, will this be done through perpetuating state control of input markets, continued input subsidies, and the government purchase of certain crops as current practice suggests? Sector activities also tend to be a mix of interventionist and market-based approaches. So, while the NDP recognizes the need to create "a strong environment for a profitable and competitive agricultural sector that is governed by a market economy, led by the private sector, and supported by suitable government policies and organizational support" (p. 64), it also speaks of protecting outputs "from imported products, especially during the term of this plan, to enable the private sector prove itself competitive against imported product" (p. 74). Such protectionist intentions have been realized in government action and continue to be supported by many government stakeholders.

***Economic solutions sought by GoI do not follow a clear ideological line***. Such a mix is also seen in the section on private sector development, where activities range from an interventionist approach ("*credit policy that seeks to grant concessionary credit to the private sector at attractive interest rates*") through a balanced approach ("*updating economic regulations that support a market economy while aiming to achieve the plan's social objectives*") to a pro-market approach ("*completing the law and regulation system that supports the private sector and the market economy*").[11] Thus, while the commitments articulated in the NDP are largely pro-market, statist approaches are still present. In addition, as discussed below, current GoI management of the economy often perpetuates state-centric approaches to economic management. This raises serious questions about the achievability of NDP objectives. The increasing dominance of the oil economy has perhaps even contributed to a lack of GoI commitment to fostering an environment that will allow the private sector to flourish. Instead, the public sector continues to grow. In the absence of a more robust private sector, many of NDP's goals – strengthened diversification, increased productivity, increased employment, reduced poverty – will be much harder to achieve.

## POLICY AND INSTITUTIONAL CONSTRAINTS TO GROWTH IN BROAD ECONOMY

***This Economic Assessment examined macroeconomic and microeconomic conditions and identified key constraints inhibiting growth; including many political economy constraints***. This section will highlight a few areas of particular concern. For a fuller discussion, see **Section B, Part 4**.

***Critical to economic diversification is a vibrant private sector, which assumes a business enabling environment***. While the NDP includes various pro-market policies, such as Policy 1.10.5.4 ("*streamlining and simplification of governmental procedures*"), these are honored more in breach than in observance. The latest Ease of Doing Business survey (2011) places Iraq 164 out of 183 countries. Its relative position has actually worsened in the last few years as other countries have initiated reforms needed to facilitate private business formation, while Iraq has been extremely reluctant to enact real and meaningful legal, regulatory, or bureaucratic reform. Such a difficult business environment greatly inhibits both

[11] Ibid, pp. 172-173.

foreign and domestic investment, which the NDP conceives as constituting roughly half of the investment needed to achieve its goals.

***As a result of the poor investment environment, diversification of the economy and the strengthening of the private sector are not proceeding satisfactorily***. Economic interventions by GoI have had the effect of further eroding the private sector in favor of public sector:

- The Cabinet has mandated state sector enterprises to deal in the first instance only with other state sector enterprises. Seventy-five percent of contracts in the oil industry are channeled through state enterprises.
- A large volume of funds have been channeled through state banks to provide concessionary loans to farmers and state sector employees.
- Private banks continue to be excluded from providing any banking services to the public sector.
- State Owned Enterprises are supported through grants to cover the cost of some, or all, of their payroll and through receiving performance bids underwritten by state banks.
- State Owned Enterprises are further supported through zero cost or subsidized inputs (no rent, subsidized energy costs such as oil at $2 per barrel) and discriminatory administrative procedures.[12]
- Licensing and permit requirements for private sector firms are discriminatory and discourage entry into the formal sector.

***This failure to liberalize SOEs perpetuates unfair competitive advantages and thus discourages private sector growth, and it leads to an increasing fiscal burden as SOE losses are covered by budgetary transfers***. Whilst there are arguments to be made to carefully sequence the restructuring of SOEs to create space for the private sector, current government policy of re-capitalizing SOEs risks being counter-productive in the medium to longer term, with the overall economic viability of many entities still to be assessed.

***Outside of NDP's articulated priorities, GoI has been recently moving to increase protection of industry, both directly through competition and anti-dumping laws, and indirectly, through legislation to ensure quality control of goods sold in Iraq***. While the intent of these laws is unexceptional and could help protect against unfair practices by some of its neighbors, the way they have been drafted opens up the possibility that they will be interpreted arbitrarily.[13] Any excessive protection will only reduce incentives for Iraq industry to make investments to increase productivity.

***Other key constraints identified by the Economic Assessment Team, which most threaten Iraqi growth, include the following***:

- Credit for a range of commercial and personal consumption items (e.g., housing) is extremely limited, thereby choking off much-needed investment and spending.
- An increasing proportion of an exploding youth population finds itself consigned to the unemployment rolls as a) the private sector is not growing rapidly enough to absorb new market entrants and b) the education system is not providing youth with the skills required to compete. This threatens long-term social stability.

[12] For example, cars for re-sale imported by the State Company for Automobiles automatically receive a new number plate. Everyone else has to purchase a number plate, with the current going price in Baghdad being $4000.

[13] These laws have been passed by both CoM and CoR, but have not yet received implementing regulations. As it stands, anti-dumping provisions provide no administrative mechanisms or standards for assessing the extent of subsidy provided in exporting countries.

- Technical skills are among the lowest in the region, adversely affecting productivity, economic performance, and regional competitiveness.
- Current electricity supply can meet only 50 percent of load requirements, which compels businesses to rely on much more expensive generators.
- Frequent checkpoints, onerous border control processes, and poor roads significantly raise the cost of freight.
- The water supply is under increasing stress, which is reflected in declining quantity and quality, and is resulting in diminished agricultural and industrial productivity and poor health outcomes.
- Uncompetitive agriculture has diminished Iraq's food security and weakened its trade balance.
- A crippling bureaucracy and frozen land markets have handicapped the construction industry at a time when there is a projected 3.5 million unit shortage in housing, with 57 percent of people living in slum conditions.

***Thus, Iraq suffers from a number of critical constraints that impede economic growth and pose a threat to long-term social and political stability***. Many of these constraints are due to dysfunctions existing in economic activities, which need to be addressed in order for the economy to healthily function. The next section will look at some of these dysfunctions.

***Constraints to Iraqi Economy***

- *Weak business enabling environment*
- *Limited credit*
- *Low technical capacity*
- *Poor electricity supply*
- *High transport costs*
- *Stressed water supply*
- *Heavy bureaucracy*
- *Frozen land markets*

## POLICY AND INSTITUTIONAL CONSTRAINTS TO GROWTH IN PRIORITY ACTIVITIES

***The Economic Assessment Team undertook a more thorough constraint analysis for nine economic activities identified in cooperation with PMAC***. A fuller treatment of all of these activities can be found in **Annex A.**

As a means to select sectors, the Economic Assessment Team identified two categories of problems in a post-conflict economy. These two categories represent: (1) the necessary conditions for achieving growth; and (2) the sufficient conditions for achieving growth.

***Our stress on necessary conditions focused attention on existing systemic constraints to the efficient operation of the Iraqi economy***. These systemic constraints deprive the economy of necessary inputs (both goods and services) that allow a market economy to function well. We identified these as: (1) electricity; (2) water; (3) freight and logistics; and (4) oil and gas. These four economic activities (some may consider them "sectors") provide essential inputs to almost every sector of a modern economy; if they do not perform their necessary function, economic growth is impossible. This is why we call them necessary conditions.

***But their necessity does not guarantee improved performance of the private sector—it only makes that improved performance possible***. More is required. The second step is to identify a suite of economic activities that, if they could be improved in their performance and productivity, would begin to yield new employment prospects, enhanced living standards, and the associated political commitment necessary to assure continued economic progress. We call these the sufficient conditions for growth and economic prosperity in Iraq. We identified five economic activities (again, they may be considered

"sectors" or "sub-sectors") that we call productivity centers: (1) greenhouse horticulture; (2) housing and light construction; (3) tourism; (4) health; and (5) education.

***If these key productivity centers can be revived or strengthened, they will give rise to important new income streams and multiplier effects that will benefit other aspects of the Iraqi economy***. In other words, these potential productivity centers represent feasible and promising targets of opportunity for sustainable development initiatives. As with the systemic constraints (water; electricity; oil and gas; and freight and logistics), the emphasis in assessing these productivity centers was to undertake careful diagnostics to explain why they are currently dysfunctional and a drag on general economic performance. The diagnostic protocol explains the causes of—or the reasons for—the current disappointing performance of these essential and promising productivity centers.

A summary of our constraint analysis can be found in **Table 2** below.

**Table 2: Constraint Analysis of Key Economic Sectors**

| Activities | Constraints |
|---|---|
| **Electricity** | • Fuel Supply for Generation<br>• Regulatory Obstacles for MoE<br>• PPP Capacity<br>• Labor Force Skills<br>• Funding and Budgeting<br>• Tariff Reform |
| **Water** | • Water Supply Governance<br>• Water End User Practices<br>• Water Supply Infrastructure<br>• Tariff Reform<br>• Wastewater Governance<br>• Shatt Al-Arab Marshland Ecosystem |
| **Freight and Logistics** | • Port Governance<br>• Road Conditions and Management<br>• Freight Procurement & Logistics<br>• Regional Integration<br>• Labor Force Skills |
| **Oil & Gas** | • Ministry Management and Accountability<br>• Retailing of Petroleum Products<br>• Refining Capacity<br>• Legal Framework |
| **Greenhouse Horticulture** | • Irrigation Practices<br>• Access to Credit<br>• Processing and Cold Chain Capacity<br>• Agricultural Technical Knowledge<br>• Input Supply and Quality |
| **Housing and Light Construction** | • Labor Force Skills<br>• Access to Credit |

| | |
|---|---|
| | • Land Markets<br>• Access to Input Materials<br>• Permitting Environment |
| **Health** | • Health Governance<br>• Management Information System<br>• Health Finance<br>• Human Resource Capacity<br>• Equipment and Medicine |
| **Education** | • Facilities and Equipment<br>• Education Governance<br>• Teacher and Administrative Capacity<br>• Higher Education Curricula<br>• Evening Education for Literacy<br>• Vocational Education |
| **Tourism** | • Accommodation Capacity and Quality<br>• Labor Force Skills<br>• Permitting Environment<br>• Access to Credit<br>• Tourism Governance<br>• Marketing and Promotion |

***These constraints pose significant problems for the Iraqi economy***. If left unaddressed, the NDP's objectives will go largely unfulfilled, since investment alone is inadequate to meet the challenges of realizing them. Addressing the systemic constraints is vital for the economy as a whole to function properly. Businesses deprived of stable and cost-efficient electricity and water supply will remain uncompetitive. Similarly, if transport costs remain high, this will raise the costs of inputs as well as make it more expensive to get goods to markets, which together will prevent Iraqi businesses from being competitive. Continued dysfunction in the oil sector will prevent Iraq from realizing the full potential of its vast energy resources and will diminish the amount the GoI will have available to invest in Iraq's development.

***Creating better conditions in greenhouse horticulture, housing, and tourism will generate critically needed employment opportunities***. Strengthening horticulture production will also increase Iraq's food security, improve its trade balance, and create beneficial spillovers to the broader agriculture sector. A stronger housing sector will help meet enormous demand for housing, which will also contribute to greater social stability. Finally, a healthier tourism sector will allow Iraq to more fully benefit from its vast cultural and religious heritage.

***Ameliorating constraints in the productivity centers will move Iraq toward more balanced growth***. Rebuilding the educational system is important for developing a diversified economy, which will require a literate and skilled workforce. Strengthening health care will improve lives, as well as produce long-term benefits for the economy through better productivity and human capital development. Since both of these services are identified with the government, improvements in them will also strengthen confidence in the government.

## 3.3 QUESTION 3: STRATEGIC AREAS FOR GOI INTERVENTION

*HOW MIGHT THE GOI PROCEED GIVEN THE ACCEPTED STRATEGIES FOR BROAD-BASED ECONOMIC GROWTH, AND TAKING INTO CONSIDERATION INTERESTS AND ACTIONS OF DONORS, THE PRIVATE SECTOR, AND OTHER PERTINENT ACTORS IN THE ECONOMY?*

***GoI could best engage with the donors by focusing on those areas a) where assistance will reduce or remove constraints to economic growth and b) where all reform actors are in strong agreement on the form and scope of targeted assistance.*** A major objective of the Economic Assessment was to identify critical constraints to the development and growth of selected economic activities and to identify GoI priorities in addressing these constraints.

***The move towards a more diversified economy has started but will take many years to achieve***. In the NDP, the GoI has clearly articulated a broad commitment to transitioning to a more diversified economy led by the private sector, although as has been pointed out elements of interventionist approaches remain (e.g., protectionist policies in agriculture, subsidized loans). This commitment to market-based approaches is seen at the activity level where the private sector is embraced for rebuilding infrastructure and improving public and private services (energy, health, transport). Thus, there is much scope for better cooperation between the GoI, donors, private sector, and other stakeholders.

***Areas for USAID Engagement***

- *Strengthen governance systems*
- *Build human capacity within ministries*
- *Strengthen investment environment*
- *Develop sustainable financing mechanisms for services (water, electricity, roads, health)*
- *Strengthen technical skills to increase productivity*
- *Strengthen capacity to produce higher value products (horticulture, petrochemicals)*

***The path to achieving the NDP objectives, however, is fraught with obstacles***. First, the Iraqi economy has been statist for decades with ministries and their SOEs accruing powerful control over the sectors for which they have jurisdiction. Although some attempts were made beginning in the late 1980s to catalyze private sector development, those efforts have mostly failed, and the public sector still dominates the economy and employs the majority of workers.

***Despite a more stabilized security situation, reforming institutions and liberalizing markets will remain difficult***. The large public sector workforce is low-skilled and many workers would likely be without employment opportunities if SOEs are shuttered. Managerial skills are in short supply and powerful bureaucrats will not readily support the diminution of their power to control markets.

***As discussed under Questions 1 and 2, there is also often quite a divide between NDP commitment and GoI action***. Iraq's commitment to private sector growth and the NDP's vision for strengthened private investment have not met expectations as the Iraq business enabling environment continues to be punishing. While the NIC was well-conceived, it has been slow in expediting investment in the way envisioned. Donor support could help create a more hospitable environment for investment through creating transparent and efficient mechanisms for ministries to issue permits and licenses.

***Donor support for capacity building within the Ministry of Electricity (MoE) to broker and manage IPPs could bring much-needed capital for expanding energy generation***. While a vital modality for expanding energy services, bitter experience elsewhere in the world demonstrates that if IPPs are not structured well from the outset, sharp backlashes can result. Iraq's fragile security situation, unstable fuel supply, and MoE's weak creditworthiness together mean that in order to compete for investment, IPPs have to be structured in a way that shifts more risk to the Iraqi government.

***Iraq's commitment to a liberalized trade regime appears to be faltering***. To be fair, Iraq's fragile private sector, which was already ill prepared to compete, appears to be suffering from exploitative trade practices from neighbor countries. The risk is a response that is out of proportion to the unfair practices, and this will shield Iraq businesses from normal competitive pressures, which will prevent them from closing the large productivity gap that leaves their goods uncompetitive. Donor technical assistance to strengthen Iraq's capacity to monitor trade practices and to employ appropriate countervailing measures would help GoI to maintain its commitment to free trade without unnecessarily exposing its private sector to unfair competition.

***As Iraq's recent capital budgeting and ministry practices have demonstrated, the NDP is only loosely binding for GoI***. The interest of the incumbent minister often weighs more heavily on ministry direction than does the NDP or the ministry's own strategic plans. Thus, donors need to engage directly with the GoI ministries to ascertain where their investments are most likely to find a willing partner. Given the personality-centered nature of much of what goes on in ministries, a strong measure of flexibility will be required.

***Donor assistance should be effectively coordinated.*** *New donor assistance should build upon existing projects being carried out by donor groups such as the USAID, World Bank, EU, JICA, and the United Nations*.

***After the Economic Assessment Team concluded the diagnostic of the nine economic activities discussed under Question 3, it conducted a joint meeting with PMAC to review the Economic Assessment team recommendations***. Based on the outcome of the joint meeting, the falling six activities were prioritized for future GoI interventions:

- Water
- Freight and Logistics
- Greenhouse Horticulture
- Housing and Light Construction
- Health
- Education

***Each of these target areas corresponds to a GoI priority activity as established by the NDP***.[14] The following discussion identifies for each priority activity possible initiatives that the GoI could partner with donors in order to ameliorate the key constraints to growth. It is based on the activity analyses found in the **Annex**. Given the GoI's positive revenue picture, these initiatives are directed less to delivery of infrastructure such as new roads or school facilities and more to strategically employed technical assistance that can be used to remove key sector impediments, which prevent the economy from reaching its full potential (e.g., TA to improve seed regulation and distribution so farmers can produce higher quality, more competitive crops).

[14] The NDP addresses the agriculture sector in general but does not list Greenhouse Horticulture as a specific priority activity. The Economic Assessment focused on Greenhouse Horticulture because this activity offers potential to address both systemic (e.g., water), and productivity (e.g. agriculture) constraints to the Iraqi economy.

## WATER

***The Economic Assessment found that many of the individual impediments to improved operational performance of the water system arise because of governance and management flaws throughout the entire system***. Strengthening water supply governance requires addressing governance issues at multiple levels. The lack of international treaties and agreements means that there is great uncertainty over the reliable supply of high-quality water. Iraq would likely benefit from technical assistance to help them with negotiating trans-boundary agreements with their neighbors

***At the ministry level, strengthened allocation of responsibilities and lines of authority between competing ministries will help rationalize water supply governance, reducing duplication and strengthening regulatory oversight***. At the basin and watershed level, assistance in advancing a devolved approach to management may be of great benefit. Creating legitimate governance at these levels will help ensure a more equitable and efficient use of water resources that takes into account the needs of downstream users. Iraq may also benefit from a program to strengthen hydrological data collection systems, which is essential for effective water management at the federal, regional, and local levels. Such a program would be politically benign and would provide the data necessary for trans-boundary water-sharing agreements, as well as for effective basin and watershed water management.

***Part of the flawed governance problem relates to the absence of a coherent tariff regime for all users***. While it can be politically difficult to introduce water pricing—or to increase existing prices—the evidence is clear that some minimal block-rate pricing can allow for basic "human needs" to be met and at the same time encourage economizing in water use. Perhaps of greater importance, the availability of a revenue stream provides the management authority some reliable income for necessary operation and maintenance. Finally, when users pay a fee for services received, it connects them to the management of the system and offers political leverage when problems do not get addressed. Users are paying for a service and they can be expected to demand good value for payments rendered. This link is good for improved management, and for responsible water use by customers. Assistance in rationalizing the water tariff system would require economic and financial analysis of the cost of water provision in the short-, medium-, and long-term. Operationally, donors could also help the GoI with improved systems of collection, including with modernizing and expanding the existing metering system.

## FREIGHT AND LOGISTICS

***Freight and logistics activities in Iraq could be significantly improved by a suite of development initiatives that would focus on improving labor skills of those involved in the activity, and by a comprehensive development initiative that would improve the governance and management of all ports in Iraq***. In addition, some of the oil revenues could be put to good effect by the development of an infrastructure improvement fund that would upgrade roads, bridges, and port facilities in the country. Asset management is also a significant problem. The long-term return on infrastructure investment would be greatly compromised without a program to maintain the infrastructure through a dedicated fund. This is often accomplished through a fee system on road use or on fuel purchased and the establishment of a road authority. The GoI will need to consider various options to identify the most appropriate sources of revenues and strategies for conducting maintenance operations.

***The freight procurement and logistics methods in the country are seriously inadequate and would yield large developmental benefits if they could be improved***. This could entail a broad range of options ranging from short-term reforms of the procurement process to outsourcing or privatizing all transport services, regardless of whether the shipped goods are for a public or private sector client. Finally, Iraq's leaders could bring important benefits to the economy if they would begin the process of close collaboration with neighbors to improve the transport system throughout the region. This would pay large benefits to all countries, and would seem to offer promising political cohesion in a region currently under political stress

## GREENHOUSE HORTICULTURE

***High value addition agricultural investments are essential.*** *T*he Economic Assessment focused on this subsector of agriculture because of its potential to achieve multiple objectives stated in the NDP, including reducing poverty, especially rural poverty, increasing the efficiency of water usage, and improving overall agricultural productivity.

***Donors could provide technical assistance in several areas. Private sector financing institutions need to be strengthened in their risk analysis capacity, particularly for agriculture finance. In addition to bank lending, supplier credit systems need to be developed and expanded, which will have the additional effect of strengthening distribution systems***. Also, equipment leasing programs need to be developed, which will help respond to the constraint in farm equipment that was described earlier. Finally, agriculture insurance programs need to be developed that will allow farmers who invest in greenhouse structures and equipment to be better protected from potential losses. This will stimulate investment and help overcome the widespread conservatism in the farming culture that has slowed the adoption of new techniques.

***In terms of technical knowledge, programs should focus on both the current extension system (particularly at governorate and sub-governorate level) as well as on developing and expanding private sector service centers, which have proven effective***. Farmers lack basic information about plant varieties, planting (seed) densities, pests, harvesting schedules, optimal temperature and moisture conditions. Operationally, they lack capacity in financial management, budgeting, price forecasting, storage, transportation and handling, distribution, and marketing. The chief need in terms of input supply is for Iraq to update and expand its seed varieties. Initiatives need to be directed toward creating a more efficient means for new seeds to be approved. This will require regulatory reform as well as strengthened capacity at the MOA. An intermediate step may be for the MOA to allow any seeds that have been approved by USDA or WHO/OECD. The seed distribution market also needs to be liberalized so that SOEs do not continue to use their monopoly positions in distortionary ways.

## HOUSING AND LIGHT CONSTRUCTION

***For the housing and light construction activity***, donors could target assistance on four key areas: (1) improving access to credit; (2) improving land markets; (3) strengthening labor force skills; and (4) developing a more efficient permitting process.

***This activity offers the possibility of creating a viable private housing market that would generate significant employment and relieve the serious housing shortage that currently exists throughout the country, particularly in overcrowded urban areas***. As discussed in **Annex A.9** and in the NDP, Iraq does not have a functioning credit market and this failure chokes off private investment, whether in residential housing or commercial development.

***Further exacerbating the dearth of credit is the dysfunctional land market. Technical assistance in developing a rationalized land tenure system, which more clearly defines ownership, could be a great benefit***. Such assistance could also extend to developing a GIS-based cadastral mapping system. Iraq is also in need of a much more simplified process for land permitting. This might include rationalizing which ministries are involved with this as well as creating a clear, simple, and efficient process for pursuing licenses. Part of the paralysis is due to a lack of urban plans, which prevents ministries from releasing land. Given capacity constraints, technical assistance to help municipalities develop rudimentary urban plans could greatly assist in guiding government decision-making. The current practice of requiring developers to do the planning within the development might also benefit from greater capacity for regulation and oversight. Finally, improved labor skills will mean that the growth of the construction sector will expand employment opportunities for Iraqis.

## HEALTH

***In the health sector, the MoH has made a commitment to shift to a primary health care approach, but current infrastructure and capacity levels means that this is a vision that will take years to realize***. There is also a shift from curative to preventive care, based on a costed package of services. WHO is piloting this model in five governorates, but additional donor assistance will be vital. USAID's current Primary Health Care program is important to this end. Iraq's Health activity could also greatly benefit from assistance in three general areas: (1) strengthening health governance; (2) improving MOH's management information system; and (3) building the capacity of its human resources.

***In the area of governance, the MoH could benefit from the development and implementation of quality management systems that more fully involve the entire range of health care workers***. It could also benefit from an expanded cadre of

administrators with strengthened capacity. As Iraq moves to a more decentralized approach, increased capacity at the regional and facility level will be needed. These capacity needs perhaps could be addressed through in-service training, as well as through exchange and twinning programs. Given the low level of budget execution, programs to improve financial management systems and personnel could help MOH increase its absorptive capacity. MOH's human resource system is also in need of being rationalized as well as having systems implemented that increase transparency. Finally, as private health care provision continues to develop, systems and capacity for accreditation of health care organizations and for regulatory oversight are sorely needed. Additionally, public private partnerships should be explored as a means to ensure that the public and private sectors grow in a way that brings the greatest public benefit. The private sector may be particularly well-positioned to contract out for primary health care and tertiary services.

***The information systems that have been developed for the central office need to be rolled out to regional offices and implemented at all health facilities***. Given resource constraints, technical assistance is needed to develop information systems that are sustainable over the long term yet adequately allow both for effective management of MoH resources as well as for management of broader public health issues). The human resource needs are substantial and encompass public administration capacity; better trained general practitioners, more nurses and midwives, and more specialists in selected areas.

## EDUCATION

***Educational needs are manifold and donors could offer a broad range of technical assistance to accelerate Iraq's efforts to achieve higher literacy rates and a better education population***. As described earlier, donors such as USAID and UNICEF are already involved in this activity and other donors could build on expanding those programs it determines successful. Assistance could be provided to help implement reforms such as the use of PPPs to facilitate construction and maintenance of school buildings. Applying a governance mold that involves school-based management would allow school principals to address to more quickly address problems and could tailor programs best suited for the demographics of their students.

***Iraq could also benefit from the development and expansion of programs to address illiteracy and vocational training***. The loss of education for so many Iraqis as a result of the last 20 years of conflict will impinge on the country's ability to develop a competitive workforce. Basic literacy is required to participate in almost all sector activities in a modern economy. The creation of learning centers available to participants in the evening hours, coupled with a robust outreach program, could create significant opportunities for Iraqis to participate in the country's economic revitalization and recovery. Similarly, reinvigoration of vocational education could boost the productivity and competiveness of the workforce. All of these initiatives would have to be carefully designed and targeted to ensure that the programs are matched to the economy's labor needs. It would obviously be counterproductive to train individuals for professions for which there is no demand.

***Functional restructuring, investments to foster school-based management systems and making decentralization work are critical to improved education delivery.*** Finally, initiatives to help update university curricula and assist administrators develop plans to achieve accreditation with internationally recognized accrediting organization could facilitate the upgrading of critical programs, especially engineering, technology and selected professional schools such as nursing and medicine.

***This assessment calls for a closer look at the World Bank's program portfolio.*** The World Bank normally plays a leading role in assisting governments with the challenge of transitioning from a state centric to more liberal and market-based approaches to economic development. Measures include setting prudent macro-economic policies (a mandate coordinate with the IMF), fiscal, expenditure and public administration reforms as well as research and investments that strengthen the enabling environment for private sector investment.

However the World Bank has been unable to provide the level of support to Iraq it has provided to other countries. And, with Iraq now having a positive fiscal balance there is little latitude to argue for concessional loans in support of so-called programmatic lending (structural adjustment).

The key role that the World Bank normally plays in guiding national economic transition, based on its own articles of agreement, is to lead the charge in modernizing economic governance arrangements, by focusing on national economic policy, sector policies, the functional restructuring of public administrative, civil service reforms and public finance management.

So far, the World Bank has not played a significant role in functional restructuring, guiding fiscal or administrative decentralization or in developing sector strategies. The focus on Public Finance Management reforms, central to the Bank's Interim Strategy Note, is an important investment but this is heavily undermined by lack of administrative restructuring to support an integrated budget and to increase accountability and transparency.

Based on the findings of this research, the World Bank could play a critical role in (i) fostering a more effective economic policy environment (ii) continuing to improve fiscal and expenditure management (iii) increasing attention to public sector governance and guiding the restructuring of SOEs as well as (iv) using the soon-to-be-completed Investment Climate Assessment to prioritize the binding constraints to growth and influence national investment.

- Influencing government policy decision-making processes by socializing the proposed approach among key members of the executive and Prime Minister's Office;
- Increase support for budget execution including legislative oversight to improve the prioritization and composition of public investment;

- Providing training to senior government economic experts on different experiences and options in transitioning beyond oil dependency;
- Given the increasing autonomy of provincial governorates including their own fiscal resources, consider further investments to strengthen sub-national approaches to improved economic governance; and
- Identifying quick wins with tangible gains at the sector level to generate models of improved economic governance.

***As described in Section B, the Economic Assessment Team conducted a detailed diagnostic exercise to identify the most severe binding constraints in nine economic activities.*** These economic activities were selected for evaluation because they were identified as systemic or productivity constraints on the overall economy. For each activity:

- A series of development initiatives were formulated to address the identified constraints.
- Priority was given to activities in which, based on interviewed experts and practitioners, the needs were most pressing and which maximally benefit other activities if the constraints were mitigated or removed.

***The Economic Assessment Team then presented the findings to the Prime Minister's Advisory Commission (PMAC) to elicit feedback and to obtain a set of GoI's priorities.*** The falling set of six activities were jointly viewed as requiring GoI and donor attention in light of identified constraints, proposed development initiatives, and resulting benefits of those initiatives. These are identified in **Table 3** below.

**Table 3: Economic Activities, Development Initiatives and Possible Benefits**

| | Initiatives | Benefits |
|---|---|---|
| **Water** | • Water Supply Governance<br>• Water End User Practices<br>• Water Supply Infrastructure<br>• Wastewater Governance<br>• Shatt Al-Arab Marshland Ecosystem<br>• Tariff Reform | • Reliable and clean water supply would<br>– Strengthen agricultural and industrial productivity<br>– Increase household health and livelihoods<br>– Increase trust in the government<br>– Increased usage fee collection |
| **Freight & Logistics** | • Port Governance<br>• Road Conditions and Management<br>• Freight Procurement & Logistics<br>• Regional Integration<br>• Labor Force Skills | • More efficient freight and logistics would<br>– Lower the cost of almost all goods and services<br>– Increase trade competitiveness<br>– Promote greater economic and political cohesion |
| **Greenhouse Horticulture** | • Irrigation Practices<br>• Access to Credit<br>• Processing and Cold Chain Capacity<br>• Agricultural Technical Knowledge<br>• Input Supply and Quality | • Expansion of greenhouse horticulture would<br>– Boost income and expand employment opportunities for rural farmers<br>– Provide domestically produced fruits and vegetables in place of imports, thus improving the trade balance<br>– Reduce water consumption by the agriculture sector |

| | Initiatives | Benefits |
|---|---|---|
| **Housing & Light Construction** | • Labor Force Skills<br>• Access to Credit<br>• Land Markets<br>• Access to Input Materials<br>• Permitting Environment | • A reinvigorated housing and light construction sector would<br>– Address the 3.5 million housing shortage<br>– Increase employment<br>– Have a large multiplier effect |
| **Health** | • Health Governance<br>• Management Information System<br>• Health Finance<br>• Human Resource Capacity<br>• Equipment and Medicine | • A better working health sector would<br>– Meet a basis social need<br>– Decrease rates of morbidly and mortality and increase the wellbeing of households<br>– Increase economic productivity |
| **Education** | • Facilities and Equipment<br>• Education Governance<br>• Teacher and Administrative Capacity<br>• Higher Education Curricula<br>• Evening Education for Literacy<br>• Vocational Education | • A literate and skilled population would<br>– Provide workers essential to Iraq's balanced economic growth<br>– Increase economic productivity |

Donors could also improve the performance of existing projects by creating greater synergies between them in addressing some of the systemic and productive constraints identified in the Economic Assessment. For example, the Economic Assessment identified "access to credit" as a constraint for multiple activities, including agriculture; housing and light construction, and tourism. Donors might consider developing finance products geared to particular sector needs. This could include initiatives like strengthening bank capacity for mortgage finance, creating a secondary market for mortgages, developing private agricultural credit, and developing financing expertise for the field of tourism. There is also a need for reforms that could result in the development of leasing markets. This could have a large impact on certain sectors, especially agriculture, where the prohibitive costs of high quality equipment hinder increases in productivity.

With PMAC, donors could also build on this economic assessment to assist in drafting a National Economic Policy Framework.

In short, donors have in place multiple projects that in a broad sense comport with GoI priorities and which are designed to promote economic development based on sound economic principles.

For future programs, donors should build upon the collaboration with GoI that the Economic Assessment Team established during the course of the study. Programs should focus on the identified sector constraints where there is sufficient GoI will to address them.

## 3.4 CONCLUSIONS

***The Economic Assessment was designed to provide GOI with a detailed understanding of the critical constraints to Iraq's economic growth and to recommend targeted development initiatives that could effectively mitigate these constraints***. In responding to the research questions, the Economic Assessment Team focused on the most recent National Development Plan (NDP) and on the government actions that have been carried out in the two years since the NDP was prepared. Most importantly, the Economic Assessment Team conducted a series of diagnostics at the macro and micro level to evaluate how GOI actions are facilitating or impinging on economic development.

***The NDP is based on reasonable economic principles but implementation through legacy budgetary and institutional arrangements and processes undermine delivery.*** The overarching finding is that although the NDP is based on sound economic principles and establishes objectives that are directed at creating a more diverse economy eventually led by the private sector, the GOI has been at best a reluctant reformer. Statist policies dating back to the 1970s still prevail and State Owned Enterprises still dominate critical sectors. Outside of the oil and gas sector, foreign direct investment and domestic private investment remains insignificant. Credits markets are stymied by the State Owned Banks that are subsidized and given monopolistic lending authority on all government sponsored projects. Other critical activities such as freight and logistics and electricity production are still controlled by the public sector. And these public sector entities perform poorly. The Ministry of Electricity can meet only 50 percent of power demand and based on their own analysis, full power will not arrive before 2015.

***Whilst surging oil prices have been a major driver of growth, as a result other sectors have become a declining function of GDP***. Further complicating Iraq's predicament is that as the price of oil has surged from less than $70 per barrel as recently as 2010 to an average of $105 a barrel in 2011, Iraq's economy has become even more mono-dimensional. In February 2012, oil is at US$122 per barrel. Oil export revenues generate more than 99 percent of all export income and fund more than 90 percent of the budget. The effects of the "resource curse" are becoming more apparent as Iraqi products have become less competitive.

***For Iraq to achieve political stability and sustainable economic growth it must act forcefully to enact long awaited reforms***. The high oil prices and the prospect of increased output and exports provides the GOI with a window of opportunity to invest in rebuilding its infrastructure, its public services such as education and health, and in its people without going into deficit spending.

***The Economic Assessment Team put forth broad set of recommendations on development initiatives that could be carried out as a partnership between the GoI and donors***. The recommendations are based on the analyses carried out in support of the Economic Assessment as well as input by the GOI on their priorities. It is hoped that the results of this study will serve as a catalyst for creating an effective partnership where the expertise of donors can help the GOI achieve the main objectives of the NDP and most importantly benefit the Iraqi people.

# SECTION B - ECONOMIC ASSESSMENT

# 4. Economic Assessment

## 4.1 ECONOMIC TRENDS AND PERFORMANCE

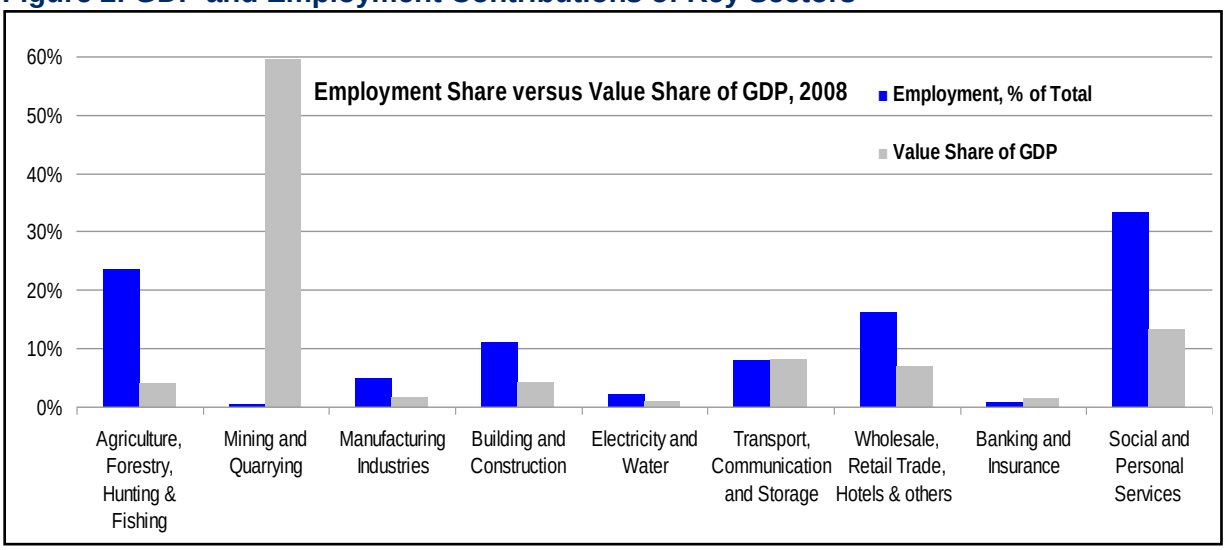
This section presents an overview of the Iraqi Economy in terms of its recent macroeconomic performance, sector composition, demographic changes, social development, and its reliance on oil. The section concludes with a summary of other recent evaluations of the Iraq economy and provides the framework for the subsequent economic diagnostic work.

### 4.1.1 RECENT ECONOMIC PERFORMANCE

***Sector Composition of Iraq's Economy***

Iraq's economy is dominated by two sectors: the public sector and the oil and gas sector (included in the mining and quarrying sector in the GoI's National Income Accounts). Data from 2008, as presented in **Figure 2**, highlight the GDP and employment contribution of key sectors to Iraq's overall economy. Social and personal services include government. Noteworthy is the high share of employment provided by agriculture relative to its GDP (25%) contribution; the converse is true for mining and quarrying. Public sector staffing, which is now just below 4 million, dominates social and personal services.

**Figure 2: GDP and Employment Contributions of Key Sectors**




### 4.1.2 DEMOGRAPHIC AND SOCIOECONOMIC TRENDS

***Population***

Iraq's population is estimated at about 32.85 million. As shown in **Table 4**, the population has increased from 27.91 million over the 6-year period from 2005, some of which comes from the return of refugees. The average annual growth rate has been 2.3 percent.

**Table 4 Population of Iraq 2005-2011**

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|
| **27.91** | **28.75** | **29.58** | **30.41** | **31.23** | **32.04** | **32.85** |

Source: IMF WEO, September 2011

The most distinguishing characteristic of the Iraqi population is that it is young. Currently, 64 percent of the population is less than 24 years old; the median age being 20. Most importantly, the high proportion of youth will have profound impacts on labor markets for quite a long time. Unless, the country can absorb the youth into the workforce (ideally private employment) political and economic stability will be difficult to achieve. The country is also becoming increasingly urbanized with 67 percent of the population residing in cities.

### *Labor Force*

Labor force size and participation rates have been difficult to estimate with large short-terms fluxes in population over the last decade alongside difficulty in obtaining good statistics during periods of high violence. Based on estimates of the number of people entering and leaving the working age population group and the estimated labor participation rate in Iraq of 41.3 percent, Iraq experienced net annual average of 250,000 entrants per year for the 2007-11 period and will have 290,000 entrants per year for the period 2012-16.

Recently, the destination of labor force entrants has been predominantly the public sector. A 2009 UNAMI Labor Force Analysis showed that the public sector provided 43 percent of the jobs in 2008, up from 28 percent in 2005. In 2011, the public sector employed more than 3.2 million workers and anecdotal evidence suggests that public sector staffing is now just short of 4 million. The dilemma for the GoI is that if the public sector fails to provide jobs in an economy whose private sector is losing jobs, and thus massive unemployment results, political and economic turmoil would be difficult to avoid. The labor market is furthermore affected by the large out-migration of skilled professionals as well as disruptions arising from ethnic conflict in 2006-2007, which resulted in a large number of internally displaced persons.

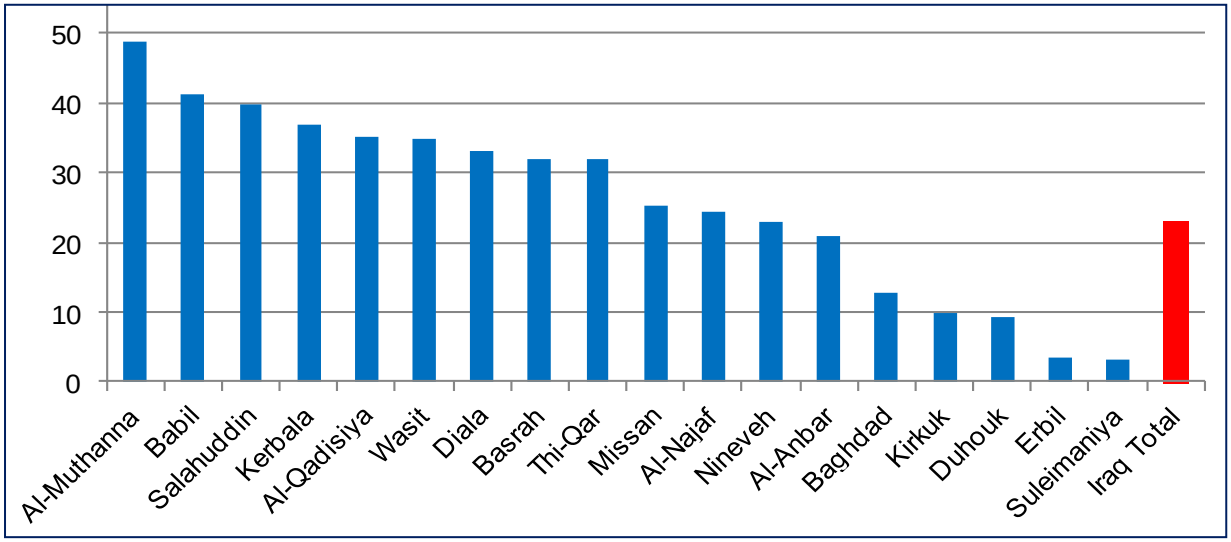
### *Poverty*

Living standards have fallen dramatically since the early 1980s. Some 23 percent of Iraq's total population and 39 percent of its rural population is classified as poor.[15] There is, however, a wide disparity among different regions of Iraq. As shown in **Figure 3**, poverty rates range from less than 5 percent in Suleimaniya to almost 50 percent in Al-Muthanna.

Areas with a low proportion of population employed in agriculture or construction, both of which are low-paying occupations, or areas with a higher proportion of population employed by the government, tend to be less poor. As noted above, until the private sector can be re-vitalized, public employment will continue to serve as a protection against poverty.

[15] Poverty is defined as not being able to obtain the minimum basket of goods valued by the 2007 IHSES survey at $2 per day

**Figure 3: Poverty Rates in Across Iraqi Governorates (% Population)**

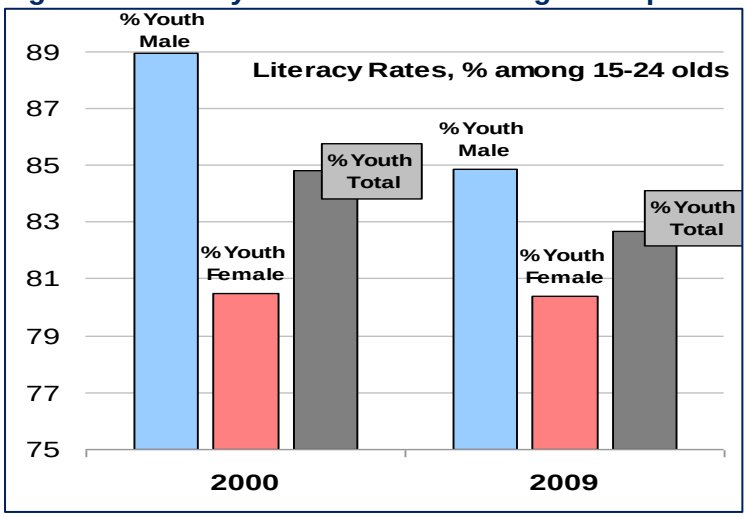



***Social Development: Education and Health and Housing***

As with other aspects of the Iraqi economy, the last 30 years has been catastrophic for the country's social services. Both the education and health sector experienced severe declines in the provision of services as a result of underinvestment, out-migration, and deaths of thousands of skilled practitioners, and the extensive physical destruction of infrastructure. The educational system is characterized by outdated curricula, overcrowded classrooms, multiple-shifts, poorly trained labor force, and an ineffective highly centralized bureaucracy. There is an estimated shortage of 12,000 buildings and many teachers required to bring down class sizes to 30 students per classroom.

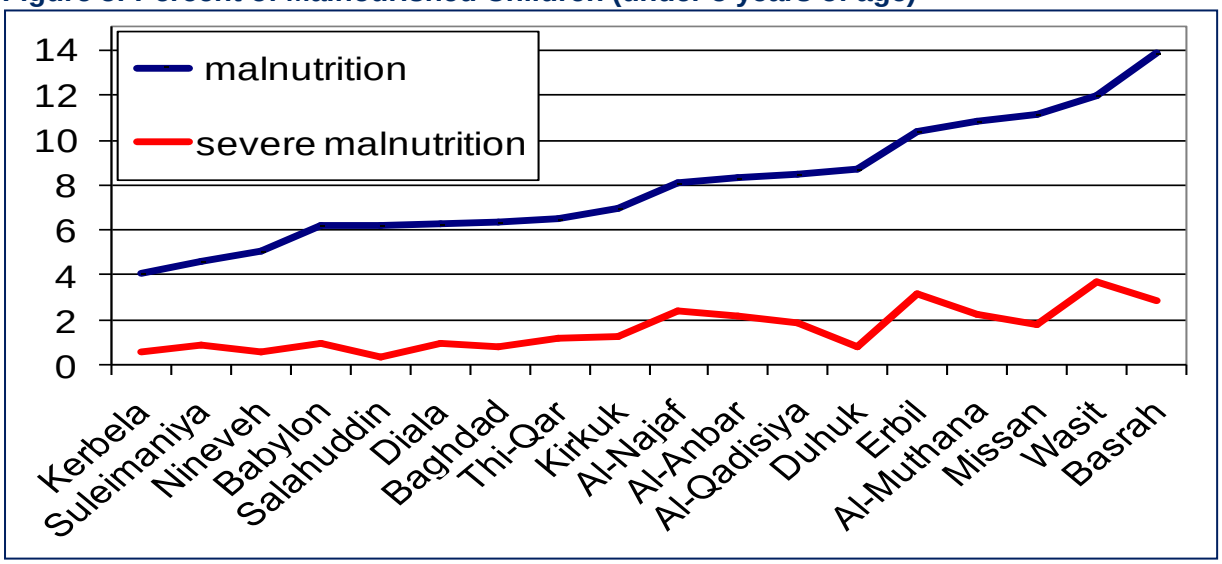
Conflict has also resulted in thousands of students missing much of their primary and secondary school education. In fact, as seen in **Figure 4,** since 2000, literacy rates have deteriorated in younger cohorts, and especially so among males, whose literacy rated decreased from 88 percent to 84 percent. Literacy rates are among the lowest in the region and are far lower than the 98 percent rate for Turkey and 99 percent rate for Jordan, Iran, and Kuwait. Although enrollments rates have risen significantly for both primary and secondary schools, enrollment in secondary education remains very low compared to its neighbors. Iraq is already experiencing a shortage of skilled laborers, and this problem will be exacerbated if progress is not made in education. This has led to Iraqi firms bringing in guest workers at the very time Iraq is suffering from acutely high unemployment. For more analysis of the education sector, see **Annex A.7**.

**Figure 4: Literacy Rates in the 15-24 Age Group**




The provision of health services is also slowly recovering from decades of neglect and destruction; including a focus on curative over preventive care. Government spending has risen and infrastructure is being rebuilt. However, Iraq has a long way to go to recover its role as the regional leader in health. It lags most of its neighbors in all major health indicators. Average life expectancy is 69 compared to MENA average of 72. Similarly, the under-five mortality rate stands at 39, which is quite a bit higher than the MENA average of 31 (2010). Diarrhea and respiratory infections account for two-thirds of deaths for under-five children. Poor water access and poor water treatment are largely to blame for the former. Additionally, one study found that 21.8 percent of children between 6 and 59 months suffer from chronic malnutrition.16 As seen in **Figure 5**, similar to poverty and employment trends, malnutrition varies greatly among the Iraq governorates. Somewhat surprisingly, poverty rates do not always map directly to malnutrition rates. For example, Basrah reported the highest incidence of malnutrition among the governorates but only ranked in the middle in terms of poverty.

**Figure 5: Percent of Malnourished Children (under 5 years of age)**




[16] World Health Organization, *JPRM 2010-2011,* Ministry of Health, Government of Iraq.

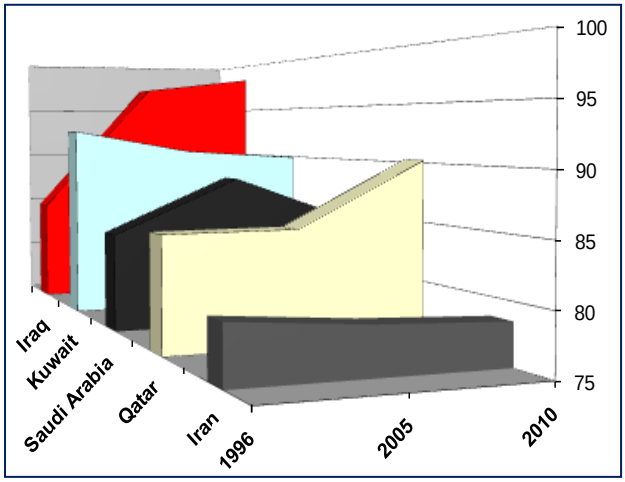
Iraq faces a severe shortage of health care providers from doctors to mid-wives and will required a major ramping up of its medical educational and training programs to meet the growing demand for quality services. For more analysis of the health sector, see **Annex A.6**.

Iraq is also facing a huge housing shortage with estimates ranging up to 3.5 million units needed to serve the growing population, especially in urban areas. The current housing stock is old and dilapidated. Among those in urban housing, 13 percent of the households have 10 or more occupants, and 37 percent accommodate three or more persons per room. Crowding is high in Iraq compared to other countries in the region with about 57 percent of the population lives in crowded housing compared to 54 percent in Yemen and 33 percent in Iran. For more analysis of the housing sector, see **Annex A.9**.

### 4.1.3 OIL DEPENDENCY

Iraq is a mono-dimensional economy. IMF estimates put oil production as accounting for more than 63 percent of real GDP. More than 90 cent of GOI's revenue originates from oil and gas sales. This sector also generates more than 99 percent of export earnings. With the price of oil sustained over $100 per barrel this condition will not likely change in the near future. As discussed previously, the reliance on one commodity to drive an economy presents a broad array of challenges and problems. **Figure 6** provides perspective on the degree to which Iraq is reliant on oil for export revenue compared to other major oil exporters.

**Figure 6: Mining as a Proportion of Overall Exports (1996-2010)**[17]




Non-oil exports form an increasingly lower proportion of overall exports and Iraq does not have a positive trade balance in any product other than minerals. For many product categories, Iraq imports 50 to 500 times more than it exports, indicating that competitiveness, other than in the minerals sector, is gravely deficient. [18]

[17] Graphs are based on data from www.opml.co.uk and ITC.

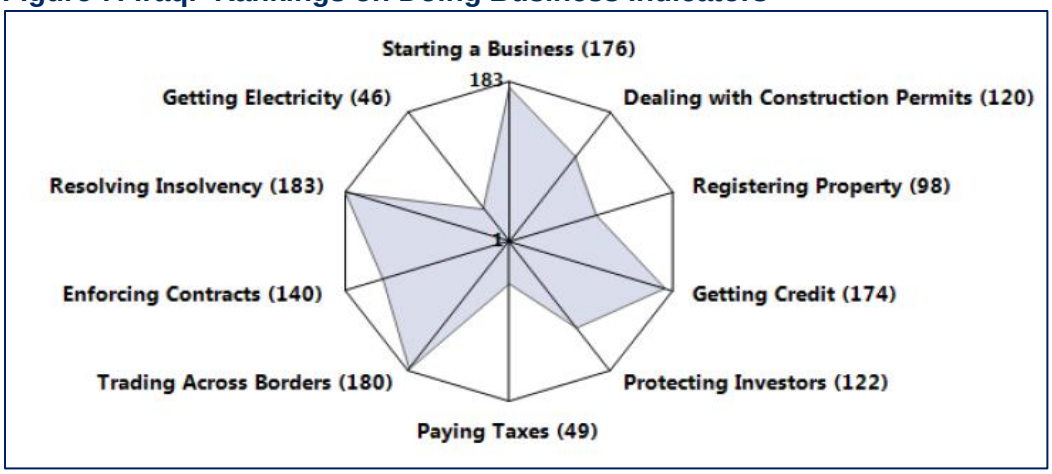
[18] Trade data for Iraq vary considerably from one agency to another. Nevertheless, it is apparent that the disproportions are considerable. E.g. for 2009 CBI data, based on bank transfers, indicate that the ratio of imports of machinery and transport equipment to their export is 166, while ITC data indicate 390. The ITC shows that the value of agricultural imports is 71 times higher than of exports, the CBI category 'food and live animals' shows imports to be 19 times higher than exports.

### 4.1.4 SUMMARY OF PREVIOUS ECONOMIC ASSESSMENTS

A number of key economic assessments of Iraqi economic trends and performance are summarized below in approximate reverse order of publication.

**Doing Business**: The World Bank Doing Business report assesses regulations affecting domestic firms in 183 economies and ranks the economies in 10 areas of business regulation. The recently released ranking (October 2011) places Iraq's economy at number 164, among the worst 10% of economies, with scores well below the MENA average. Iraq's previous ranking was 159. **Figure 7** shows Iraq's rankings on ten key indicators in respect to the ease of doing business (the higher the score, the more negative the ranking of the indicator).

**Figure 7: Iraq: Rankings on Doing Business Indicators**




Source: Doing Business Database

**Failing Oversight**: The International Crisis Group's report, 'Failing Oversight: Iraq's Unchecked Government' (September 2011), concluded that despite some recent improvement in economic governance, public services continue to be plagued by severe deficiencies and widespread corruption. One contributing factor is the state's failing oversight framework, which has allowed unchecked government interference, intransigence and manipulation, a deficient legal framework, and ongoing threats of violence. The current oversight framework, established by the Coalition Provisional Authority (CPA) in 2004, stripped the Board of Supreme Audit of significant powers, including oversight of public procurement, and referred suspected corruption cases to the court system. Those authorities were transferred to the Integrity Commission, which still has not been able to fulfill its oversight role, and whose head has just recently resigned.

**Investment Climate Review**: The most recent investment climate review for Iraq published by the Department of State,[19] while noting improved security and rising foreign investment, contained the following caveats. "The overall investment environment remained challenging, particularly for small and medium investors. Potential investors should prepare themselves for significant security costs; cumbersome and confusing procedures for business visas or new business registration; long payment delays on some Iraqi government contracts; and sometimes unreliable, nontransparent dispute resolution mechanisms. Allegations of corruption are still endemic, and the legacy of central planning and inefficient state-owned enterprises continues to inhibit economic development." As of early 2011, "many licensed

[19] See http://www.state.gov/e/eeb/rls/othr/ics/2011/157295.htm, downloaded on 20 October 2011.

investment projects remain stalled due to continuing confusion over land use at both the provincial and national levels.…Investment Commissioners struggle with unclear lines of authority, budget restrictions, and the absence of regulations and standard operating procedures. An overall lack of legislative clarity regarding the National Investment Law and the GOI's relative lack of infrastructure coordination meant that many of the investments that have received NIC approval have yet to break ground." A World Bank Investment Climate Assessment has been conducted and results are expected to be made public in 2012.

**Iraq Briefing Book:** The Briefing Book prepared in December 2010 by 'The Iraq Partners Forum', led by the World Bank and the UN, was intended to inform forthcoming discussions between Iraqi authorities and international partners on key areas of mutual interest. The Briefing Book consisted of two parts:

- Part I, key policy issues, including: macroeconomic challenges; development planning and prioritization; governance and public-sector reform; anti-corruption; private sector development; social protection; and the challenges of regional cooperation and internally disputed territories.
- Part II, sectoral and cross-cutting issues, including: human rights protection, civil society and the media; gender mainstreaming; basic social services; water resources management; agriculture; environment; energy; transport and telecommunications; and cultural heritage.

Key recommendations include:

- Continue to adhere to a sound monetary and exchange-rate policy framework.
- Contain current fiscal expenditures while protecting priority spending categories, in light of the country's reconstruction needs.
- Adopt an integrated approach to fiscal policy to mitigate the adverse impact of oil wealth on the rest of the economy and to foster economic diversification.
- Foster private sector-led growth by improving security and implementing the structural reform agenda.

**Market Assessment:** The USAID report, 'Market Assessment: Business Constraints and Opportunities at the Business Enabling Environment and Firm Level in Iraq,' June 2010, provided analysis based on a survey of some 11,000 small and medium-scale enterprises in 15 provinces from June 2009 – June 2010. Three constraining issues predominated in their responses: access to finance, the security situation and the high cost and/or unavailability of electricity. The vast majority of SMEs were labor-intensive and 79% of the laborers worked on an informal basis. 66% of the companies were not registered with any government agency, and only 12% had a bank account. Women ownership was below 4% across all provinces.

**Economic Recovery Assessment**: The USAID report, 'Iraq: Economic Recovery Assessment,' dated February 2009, provided a summary of the nation's economic performance and an evaluation of strengths and weaknesses based on key indicators covering social and economic trends, macroeconomic and financial performance, and the business enabling environment. Economic strengths included fairly even income distribution, stable inflation and low interest rates, reasonable foreign exchange reserves, a low debt ratio and high export growth attributable to petroleum exports. Weaknesses tended to occur in education, health, electricity outages, and employment.

**Economic Governance Assessment**: Another USAID report, 'Iraq: Economic Governance Assessment,' also dated February 2009, provided a broad overview of the economic governance system at the national and sub-national levels. It concluded that the context within which reforms had been supported by USAID programs had not been an enabling one, due to lack of a coherent national economic policy, a burgeoning public sector, and a

fragmented governance structure. The report recommended a sector-wide rather than a project-based approach, with particular emphasis on work related to economic policy and sector strategy, small to medium enterprise development, and both banking and non-banking services.

**SOE Reform:** A World Bank publication, 'State Enterprise Reform In Iraq: Issues and Options,' October 2009, concluded that Iraq's SOE sector was underperforming with respect to productivity and returns on investment relative to comparable firms in the region, was consistently a net loss maker for the government's budget, and was bottling up land and other assets that could more efficiently be employed in other activities. It traced developments in the SOE sector through ill-advised reforms decreed by the CPA that accelerated its economic collapse and essentially cut SOE salaries by 60%, leaving approximately 12 million persons (half the population) without a secure income base. Since 2003, a number of initiatives had been put into place with donor-community support to revitalize the sector, with some success, including commercialization and corporatization of the SOEs themselves, restructuring of the architecture of state-assets management, restructuring/liquidation of identified firms, and training and other support programs for redundant workers, and management contracting by private concerns.

**Interim Strategy Note:** The World Bank's Interim Strategy Note (2009) concluded that Iraq is well-endowed with natural and financial resources. Therefore, the main role of the World Bank should be to help the nation utilize its resources more effectively and transparently and lay the groundwork for an increased role for the private sector. The situation in Iraq remained fragile and reversible despite the progress made so far toward political and economic stabilization. The main obstacles in the operating environment were political and security fragility, the government's weakened governance capacity, an unstable policy environment, and weaknesses in the banking system. While the machinery of government was slowly reviving, inflation had been reduced and capital expenditures increased, unemployment remained high and access of the population to basic services (electricity, sanitation, clean water) was limited. Improvements in access to education and health services had yet to be translated into significant welfare gains.

**Competitiveness Analysis:** The Iraq Competitiveness Analysis, a USAID publication in 2005 looked at industries with the most potential to become competitive and contribute to Iraq's broader economic development goals. The following 10 industries were identified as promising, based on experience around the world: Agro-processing, cement, financial services, fisheries, mobile communications, petrochemicals, pharmaceuticals, plastics, poultry production and tourism.

## 4.2 IMPORTANT CONSTRAINTS IMPEDING ECONOMIC PERFORMANCE

Section 4.2 identifies a number of important impediments to performance and productivity in the Iraqi economy. Several of these impediments constitute specific constraints on the availability of essential inputs and services to firms and households throughout the economy. Other impediments are associated with specific sectors (or sub-sectors) that seriously impinge on the capacity of the Iraqi economy to recover from decades of centralized control, war, and civil strife.

In this section, we describe the diagnostic method used to identify the specific causes of — the reasons for — those economy wide and sector-specific impediments to enhanced performance of the Iraqi economy.

As is well-documented in many previous reports and studies, the Iraqi economy remains seriously handicapped by inadequate policies, inadequate infrastructure, years of underinvestment in human capital, migration of professionals, and weakened government (and governance). The full extent of economic dysfunction is graphically depicted through the following select findings of our assessment:

- Credit for a range of commercial and personal consumption items (e.g., housing) is extremely limited, thereby choking off much-needed investment and spending.
- An increasing proportion of an exploding youth population finds itself consigned to the unemployment rolls as a) the private sector is not growing rapidly enough to absorb new market entrants and b) the education system is not providing youth with the skills required to compete. This threatens long-term social stability.
- Technical skills are among the lowest in the region, adversely affecting productivity, economic performance, and regional competitiveness.
- Current electricity supply can meet only 50 percent of load requirements, which compels businesses to rely on much more expensive generators.
- Frequent checkpoints, onerous border control processes, and poor roads significantly raise the cost of freight.
- The water supply is under increasing stress, which is reflected in declining quantity and quality, and is resulting in diminished agricultural and industrial productivity and poor health outcomes.
- Uncompetitive agriculture has diminished Iraq's food security and weakened its trade balance.
- A crippling bureaucracy and frozen land markets have handicapped the construction industry at a time when there is a projected 3.5 million unit shortage in housing, with 57 percent of people living in slum conditions

Collectively, these factors severely constrain the capacity of the Iraqi economy to diversify and grow in a more balanced manner—both in terms of sector composition and in terms of geographic dispersal in the country. Without major policy (institutional) changes, the economy will continue to be dependent on oil, and the public sector will continue to dominate the employment situation. Without a revitalized private sector, the economy will be unable to meet the future needs of its citizens.

The diagnostic method used by the Economic Assessment Team is based on a detailed analysis of specific economic activities in Iraq. We now turn to that diagnostic approach.[20]

[20] We have adopted the convention of referring to the objects of our diagnosis as "economic activities." Some readers may view these activities as "value chains" or as "sectors" but this can be confusing since different

### 4.2.1 ECONOMIC ACTIVITIES CONSIDERED

The diagnostic method started by focusing on two specific tasks. The first of these tasks identified particular economic dysfunctions that cut across all aspects of Iraq's economy. This approach allowed the team to identify the current systemic constraints that impede economic performance and productivity — thereby causing severe problems across all economic activities in the country. The team identified four systemic constraints: (1) electricity; (2) water; (3) freight and logistics; and (4) oil and gas. These four economic activities are systemic constraints on economic recovery because they provide essential inputs (both goods and services) to all components of the Iraqi economy; when these four economic activities are dysfunctional, the entire economy directly suffers. In the list of problems and constraints presented in the previous section, water, electricity, gas & oil, and freight & logistics figure prominently. This is to be expected because these four economic activities provide essential inputs to almost every sector of a modern economy.

The second task then identified additional economic activities that—while not systemic in nature—offer great promise in stimulating a much-needed economic recovery in Iraq. This task focused analytical attention on a set of economic activities that are currently in serious disarray because of specific—and readily correctable—constraints and associated dysfunctions. We regard this second set of dysfunctional economic activities as key productivity centers that, if revived or strengthened, could generate multiplier effects that would benefit other aspects of the Iraqi economy. In other words, these potential productivity centers represent feasible and promising targets of opportunity for creative development initiatives. As with the systemic constraints (water, electricity, gas & oil, and freight & logistics), the emphasis in assessing these productivity centers was to undertake careful diagnostics to explain why they are currently dysfunctional and a drag on general economic performance. The diagnostic protocol explains the causes of—or the reasons for—the current disappointing performance of these essential and promising productivity centers.[21] The economic activities identified as important productivity centers are: (1) greenhouse horticulture; (2) housing and light construction; (3) tourism; (4) health; and (5) education.

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economic assessments conducted by various international organizations have different protocols for dividing the Iraqi economy into sub-sectors or sectors. Identifying them as "economic activities" avoids confusion.

[21] This diagnostic approach differs from that taken in "growth diagnostics." Rather than starting at the macroeconomic level in search of signs of market failures, the USAID-*Tijara* team employed a diagnostic protocol that identifies actual impediments to performance and productivity based on interviews with experts and participants in the specific economic activities under study. This approach gets quickly to the major causes of current economic dysfunction. It does this by avoiding the less precise approach that seeks an explanation of dysfunction based on prices and rates of return on particular investments as proxies for the problematic dysfunction. In a degraded and dysfunctional post-conflict economy, prices and estimated (or reported) rates of return are unreliable indicators of anything. Given the historic problems of reliable data in Iraq, the only place to start credible diagnosis is at the level of the "real economy" rather than as dubiously reflected in recorded data on prices and rates of return on investment.

### 4.2.2 RATIONALE FOR FOCUS ON THESE ECONOMIC ACTIVITIES

The specific rationale for emphasizing these nine economic activities is explained below. We first discuss the four systemic constraints to productivity in the Iraqi economy.

#### A. ELECTRICITY

The inadequate and unreliable provision of electricity to firms and households routinely harms the entire political economy of Iraq.[22] Electricity shortages are a serious drag on industrial development, on the modernization of intensive agricultural production, and on the level of health of the Iraqi population. Factories have closed and expansion of output is often precluded because of the lack of available power. Employment stagnates and public distrust of the government increases. As a result, most firms and homes necessarily rely on illegal connections and private generators for their electricity. This then further reduces revenue streams to the Ministry of Electricity. Moreover, there are heightened safety and health risks from improper hookups, and from excessive noise and air pollution.

#### B. WATER

As with electricity, water is an essential input for the normal operation of households and firms. Water supply and quality problems adversely impact agricultural and industrial productivity and pose health risks to the Iraqi population. Where shortages occur, households and firms are forced to devote scarce income to private storage tanks and pumps to counter frequent interruptions in deliveries. The poor must pay more to acquire drinking water from private vendors. Reliable water supplies enhance economic productivity and as with unreliable electricity, failure to provide reliable and safe water encourages general widespread contempt for government.

#### C. FREIGHT & LOGISTICS

Serious dysfunction within the freight and logistics activity increases the costs of shipping goods within Iraq, and also adversely affects imports and exports. Impediments to the orderly and efficient operation of this essential economic activity include a degraded road network, centralized control of freight movements by an undercapitalized and inefficient State Owned Enterprise (SOE), low productivity at ports, and excessive delays arising from security checkpoints. An efficient freight and logistics sector would facilitate economic connectivity within Iraq and with its neighbors. Costs for inputs and outputs for industrial production are reduced as transportation costs are lowered rendering the

[22] We stress the political economy of Iraq because the unreliable provision of electricity serves as a daily reminder—particularly during the hot summers—of the comprehensive dysfunction of the entire political system that seems unable to correct these long-standing flaws in the electricity sector.

economy as a whole more productive and competitive in global markets. If Iraq is to achieve balanced economic growth across all sectors and regions of the country, it will be necessary for the private sector to expand its markets and increase employment. This will be impossible without a much-improved freight and logistics network.

### D. OIL & GAS

Oil and gas are the economic lifeblood of the Iraqi economy generating almost all of the export income and most of the revenue for the government. The sector, however, suffers from a seriously degraded capital stock, a paucity of technical expertise due to years of sanctions and international isolation, to say nothing of ongoing conflict. Over the last 2 years, Iraq has negotiated 12 major technical service contracts with numerous international oil companies (IOCs) with the intent of modernizing existing production facilities, and developing new oil fields in the south. These IOCs have signed contracts to invest billions of dollars for oil and gas development. In the absence of future civil strife and political upheavals, private sector investment should be sufficient to address the infrastructure issues in oil and gas production. Nonetheless, the GOI has yet to address the profound constraints that the degraded retail distribution component of this sector imposes on the economy. The activity provides an essential input to all transportation within Iraq and at the moment this aspect is seriously dysfunctional. As noted above, transport firms willingly pay three times the official price for diesel fuel to avoid long delays at retail pumps. Retail distribution of other petroleum products such as kerosene and LPG are conducted in a manner that poorly serves the Iraqi consumer.

We now turn to a discussion of the five economic activities that represent potential productivity centers. These five activities hold great promise for stimulating the growth of the Iraq economy.

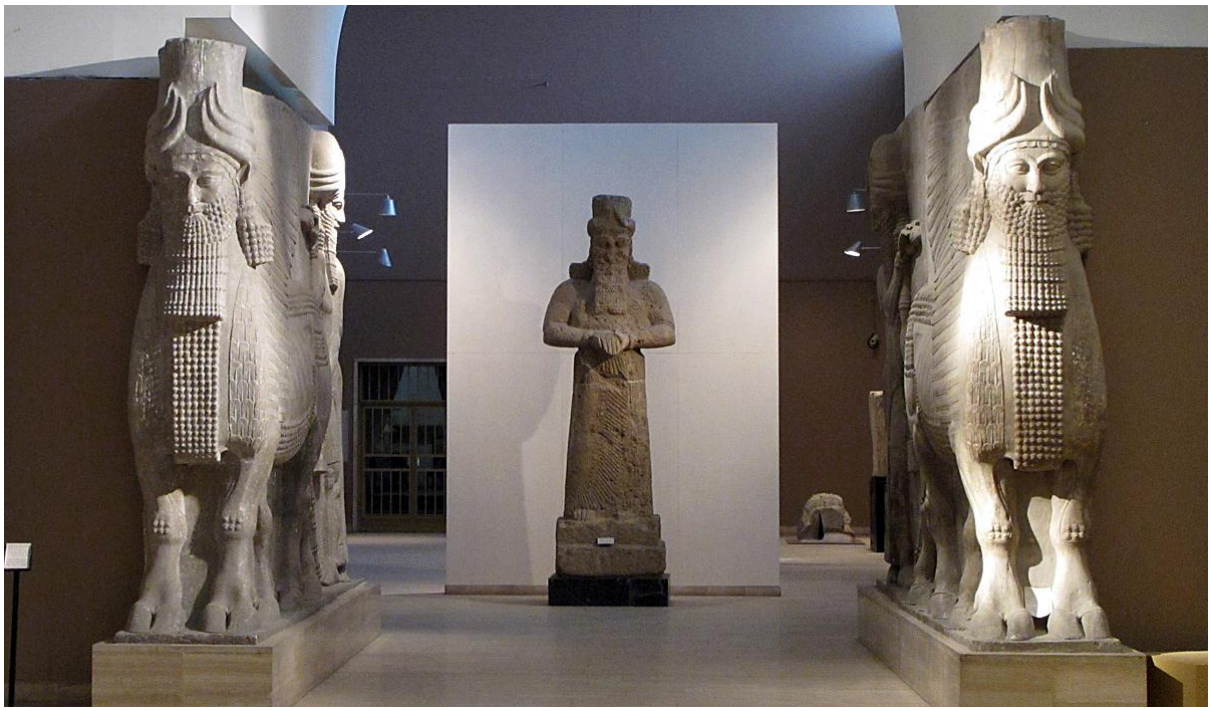
### E. GREENHOUSE HORTICULTURE

Expanding the small but growing horticulture sector would benefit rural employment, ameliorate rural-urban migration, reduce poverty among women, stop leakage of money out of Iraq, produce large value-added per unit of land and water used, bolster Iraqi food security, offer improvements in water management, and potentially generate a viable export market in winter vegetables for Europe. It is estimated that horticulture yields per unit of land are 4 times higher under greenhouse cultivation than under field conditions. The efficiency of water use is also much higher with greenhouse cultivation rendering this activity particular appropriate for the climate of Iraq. The Assessment Team believes that greenhouse horticulture represents a very promising economic activity for immediate development assistance.

### F. HOUSING & LIGHT CONSTRUCTION

Iraq faces a severe shortage of housing and therefore efforts to encourage the construction of new dwellings appear to be a very promising development initiative with profound social and political benefits—and with high employment and income multipliers. Every dwelling constructed requires associated consumer spending for furniture, electrical appliances, and various fabrics (carpets, curtains, bedcovers, etc.). Housing and light construction are very labor intensive and so the employment benefits are quite robust. As the political situation in Iraq remains troublesome, it is well to recall that a nation of home owners is a stabilizing force. More housing units would relieve a serious shortage and reduce the prevalence of slum-dwellers. Locational attributes of new construction could be an important component of achieving a more balanced regional population, thereby stemming some of the migration from rural areas to Baghdad, Basrah, and other cities.

### G. TOURISM



Tourism in Iraq is primarily associated with religious visitors. Of the estimated 2 million tourists annually, approximately 1.5 million are Shia tourists from Iran. In light of the many historic and cultural sites in Iraq, the government has expressed interest in expanding the tourist sector beyond its narrow religious base. An expanded tourist industry would indeed contribute to more balanced regional growth throughout the country, it would provide good jobs for women, it would improve the foreign exchange situation, and it would serve to promote Iraqi culture and heritage (rather than religious divisions)—an important aspect of improved political and social stability. Tourism is very labor intensive—drivers, guides, hotel staffing, reservation centers—and improvements in the tourism industry seem quite promising for economic revitalization.

### H. EDUCATION

The Iraq educational system has undergone a dramatic decline from its peak years in the early 1980s when almost all indicators had shown dramatic increases from previous decades. The sanctions and the ongoing conflicts have resulted in an educational system that suffers from severe deficiencies in physical infrastructure, human resources, and outdated curricula. Accordingly, the quality of education is below international and regional standards, and a generation of Iraqis is much less educated than its predecessors. Literacy rates for male youth (15-24), for example, have decreased from 88 percent to 84 percent. Passing rates for the university exam are dramatically lower than a decade ago, and dropout rates remain very high. Secondary school enrollment is also very low and has only recently begun to rebound. Rebuilding the educational system will be critical to Iraq's objective of developing a diversified economy that will require a literate and skilled workforce.

## I. HEALTH

Health is an essential service. Apart from the unnecessary suffering that a poor health system creates, poor health outcomes have negative impacts on productivity and human capital development. Improving the effectiveness of Iraq's health care provision will produce long-term benefits for the economy. Since health care provision is identified with the government, improvements in service will also strengthen confidence in the government. After years of neglect, Iraq's health-care system finds itself with an inadequate number of staff, outdated medical practices, dilapidated facilities, and insufficient equipment and medicine. The government's health-care budget has grown dramatically from $50 million in 2002 to $4.85 billion in 2011, but a budget execution rate of just below 25 percent means that such budget growth has not been fully realized in improved health-care provision. In fact, due to inadequate service at public facilities, 25 to 30 percent of spending on health care is for private services. Strategic development initiatives to strengthen management systems and build capacity could help the GOI achieve efficiency, effective coverage, and equitable access to care.

The Economic Assessment Team then undertook a detailed diagnostic exercise to identify the most severe binding constraints in each of these nine economic activities. Building on a survey and assessment of the abundant literature on current challenges to the Iraqi economy, we compiled a list of the probable dysfunctions and constraints in each of the nine activities. This exercise was based on economic theory, empirical knowledge of the Iraqi economy, and familiarity with economic circumstances in similar post-conflict settings. For each of the nine economic activities under study, an extensive list of current impediments was compiled.

As a second step, the Team convened participants in each economic activity, as well as Iraqi experts, to participate in an intensive workshop. Iraqi participants were asked to describe the overall status of the activity in which they were involved and to describe the vexing impediments (constraints) they face in conducting their business. After much discussion, participants were asked to identify the five-six most urgent problems requiring correction. This exercise generated much discussion and debate. The

constraints were then classified as highly urgent or of intermediate urgency in terms of the immediacy with which they should be corrected.

The third step was to analyze this list of the most urgent constraints in order to identify the probable causes of—reasons for—the important constraints. The result, when all nine economic activities had been subjected to this diagnostic activity, also identified a set of urgent corrective actions--considered to be "development initiatives"—that appear to hold promise for correcting the existing dysfunctions in each economic activity.

The fourth and final diagnostic step was to assign a weight to each of these corrective actions (development initiatives) indicating the possible contribution to other economic activities from correcting this specific dysfunction in this particular economic activity. For instance, one profound impediment to the provision of electricity is the constant shortage of natural gas fuel for powering generators. Notice that if this dysfunction were to be corrected it would likely mean that the natural gas currently flared and wasted could be used for fertilizer production. Domestic fertilizer production would directly benefit agriculture and help reduce Iraq's reliance on food imports. This attribute of rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality.

### 4.2.3 SELECTING DEVELOPMENT INITIATIVES BASED ON URGENCY AND ADDITIONALITY

The development of a program of specific development initiatives that the GoI and the donors ought to consider then proceeded by assigning a score to each possible constraint-specific initiative for the two attributes: (1) urgency; and (2) additionality. There are two categories of urgency: highly urgent received 5 points, while intermediate urgency received 3 points. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality.

One of the persistent problems in development assistance is that donors frequently present governments with a long list of "necessary" problems to be fixed. Governments, however, have a limited capacity to solve many problems at the same time, and it is therefore necessary to help them set priorities. To offer guidance in this regard, the Economic Assessment Team developed an aggregating protocol that considered the degree of urgency and the judgment of additionality. To derive a single scalar of priority, the team assigned the following weights to the scores for urgency (0.6) and additionality (0.4). That is, the weights sum to 1.0 with urgency accounting for 60 percent of the final score, and additionality accounting for 40 percent of the final score. We have assigned a slightly larger weight to those constraints that are judged by Iraqi experts—confirmed by our own judgments—as of greatest urgency. A slightly lower weight was assigned to additionality.

The results of this assessment and diagnostic method are shown in **Annex A.**

## 4.3 SUMMARY AND IMPLICATIONS

In the absence of oil revenues, the Iraqi economy would be a shadow of its current self. Only Angola is more dependent on oil. The spurt of economic growth that has occurred over the last year is solely attributable to oil prices. Iraq is a mono-dimensional economy and recent trends show little progress in broadening the foundation on which the economy is built. Exports of all tradable goods have decreased relative to oil. In fact, oil is the only net exported good, all other goods, including food are net imports

The Iraq economy also remains dominated by the public sector. Years of strict state controls, and then a decade of war and civil discord, have crippled and hollowed out the processes of a viable market economy. The private sector has suffered throughout this period by a stifling of market information to guide entrepreneurial initiative, by credit rationing, by bureaucratic regulations and administrative sclerosis, and by high transaction costs that impede market processes. Iraq ranks at the bottom 10 percent of states in terms of ease of doing business. Even the newly created “one stop shop” of the National Investment Commission for foreign investors is bogged down in the bureaucracy

Infusions of oil revenue have allowed an increase in public-sector employment, but this trend cannot continue, despite government surpluses. Between 2006 and 2008, and presumably continuing today, there were no job increases in the economy except for the public sector. Rural areas exhibit substantially higher poverty. Youth unemployment is high and could pose major societal challenges if the growing labor force is not given employment opportunities, especially in the urban areas.

Income disparities in Iraq are not extreme, yet there are important regional, occupational, and gender inequalities. Regional poverty is greatest where agriculture and construction are the dominant sources of employment. The dysfunctional private sector means that the public sector is the employer of first resort.

Balanced and integrated growth requires that the private sector now begin to serve as an engine of economic recovery. But that prospect will depend on overcoming—rectifying—a number of serious constraints and impediments. To those we now turn.

# 5. Economic Diagnostic

## 5.1 MACROECONOMIC ANALYSIS

As discussed in 4.1.1 above, Iraq's broad economic picture is positive in many respects, as it enjoys robust economic growth, a fiscal surplus, a positive trade balance, and low inflation. The purpose of this section is to probe Iraq's macroeconomic performance more deeply to identify negative aspects that need to be addressed in order for Iraq to enjoy sustained, balanced, and equitably distributed growth.

### 5.1.1 Macroeconomic Performance

***Fiscal Policy***

Iraq's fiscal picture is quite positive. Following a budget contraction in 2009, which was induced by the collapse of global oil prices, increasing oil revenues since then have meant that GoI has been able to substantially increase the budget from 59.1 trillion ID to a proposed budget of 117.1 trillion ID in 2012, a dramatic 98 percent increase in just three years. **Table 5** provides fuller data for GoI budgets between 2008 and 2012.

**Table 5: GoI Budget in Trillion ID (2008-12)**[23]

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| Total Budget | 74.1 | 59.1 | 72.4 | 96.7 | 117.1 |
| *Percent Growth* | | -20% | 23% | 34% | 21% |

Originally, the IMF anticipated Iraq achieving a fiscal surplus by 2013 (see **Table 6**),[24] but due to higher than expected oil revenues (91.6 trillion ID compared to the projected 71.9 trillion ID), Iraq likely achieved a fiscal surplus in 2011 two years earlier than IMF had projected.[25] In addition, the anticipated budget execution rate for capital expenditures is 33 percent, which means that roughly 20 trillion ID would be left unspent, which would further contribute to Iraq's fiscal balance.

**Table 6: IMF Fiscal Projections (Trillion ID)**

| | 2008 Est. | 2009 (Est.) | 2010 (Proj.) | 2011 (Proj.) | 2012 (Proj.) | 2013 (Proj.) | 2014 (Proj.) |
|---|---|---|---|---|---|---|---|
| Total Revenue | 82.0 | 54.7 | 66.4 | 81.3 | 93.7 | 109.1 | 122.6 |
| *Oil Revenue* | *73.9* | *45.6* | *58.6* | *71.9* | *84.9* | *100.8* | *112.7* |
| *Other Revenue* | *8.0* | *9.1* | *7.8* | *9.4* | *8.9* | *8.3* | *9.9* |
| Total Expenditures | 83.7 | 68.9 | 76.6 | 97.0 | 101.4 | 104.6 | 107.6 |
| **Fiscal Balance** | -1.7 | -14.2 | -10.2 | -15.7 | -7.7 | 4.5 | 15.0 |
| ***in percent GDP*** | **-1.6%** | **-18.6%** | **-10.6%** | **-13.7%** | **-5.8%** | **2.9%** | **8.7%** |

**Source: IMF**

The capital budget has grown more quickly than NDP called for as GoI has observed the NDP's goal of having the capital budget constitute a minimum of 30 percent of the total

[23] These figures are compiled based on data provided by GoI.

[24] IMF budget figures differ from the ones listed in IMF's Table 2.1 because the IMF figures are projections of actual expenditures whereas the Table 2.1 provides GoI planned budgets.

[25] The World Bank was more optimistic, predicting a fiscal surplus in 2012. See World Bank, "Regional Economic Update: MENA Facing Challenges and Opportunities, Middle East and North Africa Region," Washington, D.C. USA, May 2011.

budget even as budgets have risen much more quickly than the NDP projected. This has enabled GoI to make significant investments in oil and electricity, as well as in health, education, and agriculture.

Iraq's fiscal situation, however, is vulnerable since oil revenues constitute over 90 percent of current budget revenues. When oil revenue receded in 2009 due to a drop in prices, Iraq's overall fiscal balance was endangered, and the GoI was forced to reduce both operational and capital expenditures. Future oil revenue will depend on global oil demand as well as on how rapidly Iraq can increase oil production. As an example of the impact of these factors, **Table 9** shows the U.S. International Energy Agency (IEA) oil revenue[26] projections for various scenarios, with a variation between high and low scenarios at $38 billion in 2012 and at $93 billion in 2020. Such variation makes fiscal planning difficult. To prepare for the possibility of future shocks, Iraqi monetary authorities set as an explicit objective the gradual accumulation of financial buffers that could be drawn upon should either oil production or prices fall. This will help smooth out expenditures in the face of uncertain oil revenues due to fluctuating oil prices, which will, in turn, facilitate fiscal planning. Now that it has achieved budget surplus, building such reserves is possible.

### Table 7: IEA Oil Revenue Projections (Billions USD)

| Scenarios | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| High IEA Price/High Production | 116 | 133 | 153 | 178 | 195 | 213 | 233 | 255 | 281 |
| Low IEA Price/Low Production | 78 | 89 | 102 | 119 | 130 | 143 | 156 | 170 | 188 |
| IEA Forecasted Price/GoI Oil Targets Met | 102 | 124 | 150 | 181 | 220 | 268 | 325 | 395 | 538 |

**Source: International Energy Agency**

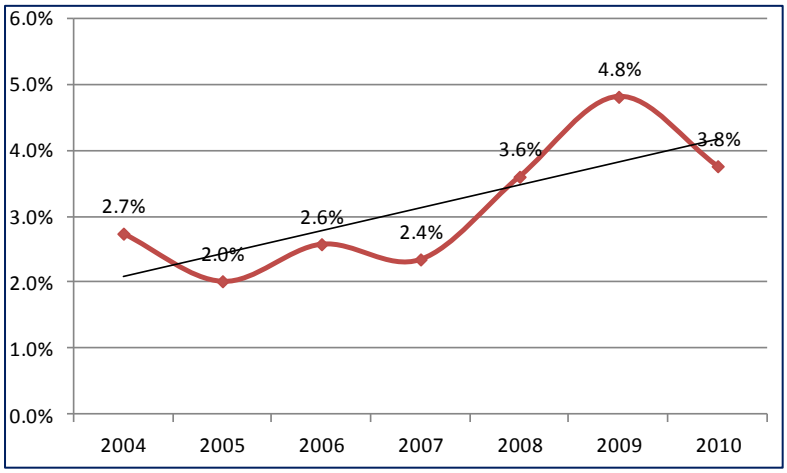
A long-term fiscal concern is the GoI's burgeoning public sector payrolls. Public sector salaries and pensions were 21.1 trillion ID in 2008 (38 percent of operating expenditures) in 2008 and were projected grow to 33.9 trillion ID in 2012 (51 percent of operating expenditures). In the face of high unemployment and an under-performing private sector, expanding government employment has become too easy of a tool to address these problems. Political will and discipline will be needed to resist continued government expansion.

Further complicating this is the slowness with which the liberalization of State Owned Enterprises (SOEs) is coming along. While GoI has committed to the gradual privatization plan for most of the SOEs,[27] it is understandably hesitant to increase unemployment, so it continues to prop up inefficient businesses, which have required increasing budgetary transfers to cover their losses, including transfers that reached 4.8 percent in 2009 (**Figure 8**). Failure to address this not only creates fiscal pressure but also perpetuates an uncompetitive marketplace that weakens the ability of more efficient private sector companies to survive, which is essential for long-term sustainable employment as well as for increasing non-oil revenues.

[26] These projections are for oil revenue for entire production and not government revenue from the oil sector.

[27] Task Force for Economic Reforms with Assistance from the Prime Minister's Advisory Council of Iraq, the United Nations, and the World Bank. "Roadmap for Restructuring State-Owned Enterprises in Iraq," Monograph, Baghdad, August, 2010.

**Figure 8: Transfers to State-Owned Enterprises (SOEs)[28]**




### *Monetary Policy*

GoI has developed its monetary policy to meet targets for two variables – the inflation rate and the exchange rate. Due to the large inflows of petrodollars, CBI has allowed the Iraqi Dinar (ID) to appreciate roughly 20 percent since 2004 in nominal terms but currently is holding it steady at 1170. In December 2011 the Iraqi Dinar came under pressure due to political uncertainties. The Central Bank sold foreign exchange to support the Dinar at near 1170 per US dollar. This episode illustrated how important political stability is to the macroeconomic outlook. In response to this, the Central Bank announced that it was holding $60 billion in reserves, which are the highest in Iraq's history.

CBI's aim is to keep inflation in the low single digits. Despite growth of broad money of approximately 20 percent per year in 2010 and 2011,[29] CBI has managed to keep inflation in check to around five percent (see **Table 8**), which accords with the MENA average. In light of how volatile Iraq's GDP has been in the midst of wildly vacillating oil prices, CBI must be given all due credit for its effective monetary policy management.

Low inflation and rapid growth in funds at checking accounts in Iraq's commercial banks is a puzzle. It likely means that banks are not lending to the private sector by as much as the monetary regulatory framework would allow. It may also imply that Iraqi citizens are hiding cash in their homes. Until lending becomes more open to the private sector, such a small money multiplier will allow the Central Bank to maintain high rates of money growth without inducing inflation. Once lending becomes more active and commercial bank reserves and deposits are drawn down, this will fuel faster economic growth, but it will also risk higher inflation rates. The recent World Bank update on the region points out that Iraq is vulnerable to international food price shocks as well.[30]

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[28] IMF Article IV Consultations and Country Report No. 11/75, March 2011.

[29] Unless otherwise noted, all estimates are from the IMF. IMF numbers were chosen because they are consistent and agreed to with the GOI. Estimates from other sources are often quite different.

[30] World Bank, "Regional Economic Update: MENA Facing Challenges and Opportunities, Middle East and North Africa Region," Washington, D.C. USA, May 2011.

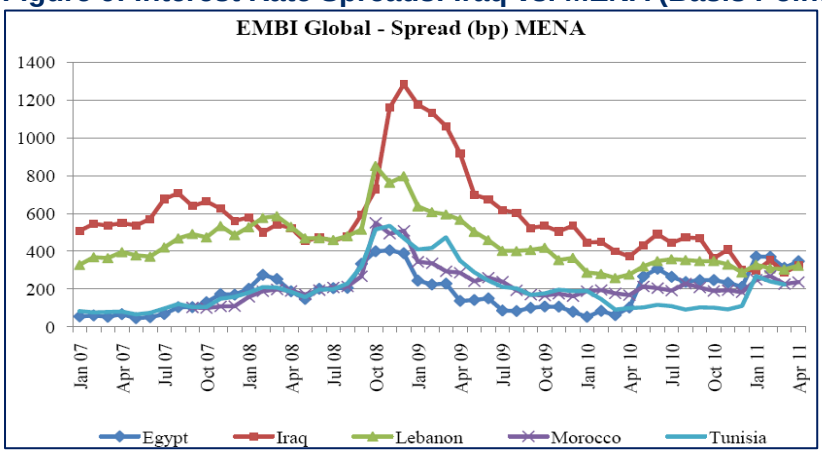
### Table 8: Annual Rates of Inflation[31]

| | 2006 | 2007 Est. | 2008 Est. | 2009 Est. | 2010 Est. | 2011 Proj. | 2012 Proj. |
|---|---|---|---|---|---|---|---|
| Consumer Price Inflation | 25.0 | 4.7 | 6.8 | -4.4 | 3.3 | 5.0 | 5.0 |
| Core Price Inflation | -8.7 | 12.3 | 11.7 | 6.1 | 3.3 | 5.0 | 5.0 |

**Source: IMF**

Interest rates have fallen in tandem with inflation rates and are now in the same range as the rest of the MENA region. Interest rate spreads have also receded to the MENA average after spiking in January of 2009. Thus, risk as regards the financial markets is within the regional average (see **Figure 9**). This too can be credited to Iraq's sound macroeconomic policies.

### Figure 9: Interest Rate Spreads: Iraq vs. MENA (Basis Points)




### *Economic Growth*

In the context of the weak global economy, Iraq's economic growth is remarkably strong. The IMF projects real GDP growth of 12.6 percent in 2012 and 10.2 percent in 2013, which are among the highest in the world, and higher than the MENA average. Even for non-oil GDP, it projects a healthy 5.5 real GDP growth. **Table 9** shows Iraq growth projections from 2011 to 2016, as well as the oil export projections that underpin them. In fact, the most recent SOMO estimate of 2011 oil exports is $83 billion, so this table understates Iraq's 2011 growth rate. As new oil fields are developed over the next few years, oil exports should continue to experience substantial growth. Oil production is now on target at 2.8 mbd. However, exports have not kept pace reflecting problems in the oil export infrastructure and in Iraq's ports.

### Table 9: Real GDP Growth Projections

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| Real GDP Growth (% Change) | 9.6 | 12.6 | 10.2 | 9.4 | 8.8 | 9.8 |
| *Key Assumption:* | | | | | | |
| Value of Oil Exports (Billions USD) | 72.1 | 77.6 | 96.3 | 107.5 | 120.3 | 139 |

**Source: IMF World Economic Outlook Database, September 2011**

[31] December compared with December of the previous year.

Since the oil sector is capital intensive and employs relatively little labor, its rapid growth will do little to directly address Iraq's high unemployment rate and will not generate balanced growth unless the government revenue it generates is used effectively to diversify the economy. In fact, as will be discussed below, oil dominance threatens to weaken the competitive position of other sectors.

Iraq's labor productivity is quite low when compared to the region as shown in **Table 10** which shows its GDP per employed person at 50 percent or below other countries in the region. The index also shows how Iraq's labor productivity is 40 percent below what it was in 1990. This reflects the toll three decades of conflict and isolation took on Iraq in terms of diminished capital investment and the failure to keep abreast of the latest technical and management innovations. Increased productivity will strengthen the competitiveness of Iraqi goods and services, as well as raise incomes. Strengthening productivity will require a mix of capital investment, technical knowledge transfer, and more efficient input and transaction costs (electricity, freight, government, etc.).

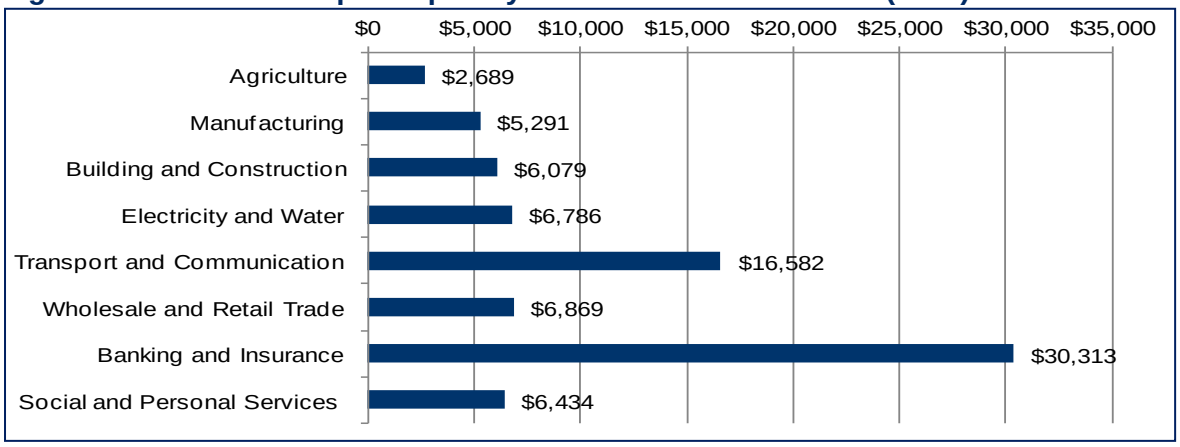
**Table 10: Regional Comparison of Labor Productivity (2010)**

| Country | GDP per Person Engaged (constant 1990 US$ at PPP) | GDP per Person Engaged (1990 = 100) |
|---|---|---|
| Iraq | 6080 | 59 |
| Iran | 15415 | 120 |
| Jordan | 17679 | 107 |
| Syria | 23911 | 110 |
| Turkey | 27530 | 172 |
| Egypt | 12897 | 152 |

**Source:** ILO, Key Indicators of the Labour Market

Disparities in value added per capita at the sector level are quite staggering as the mining sector comes in at $2.2 million per employee, followed next by banking and insurance, which at $30,313 per employee is 1.4 percent of the mining sector per capita value added. Value added per employee was lowest in agriculture ($2,689), followed by manufacturing industries ($5,291), and building and construction ($6,079). These points to significant room for improvement in productivity would generate higher incomes and will allow Iraq to produce goods that are more competitive with imports. **Figure 10** provides a fuller sector comparison. (Mining has been left out in order to be able to better see variations between the other sectors which much more closely approximate each other in scale).

**Figure 10: Value Added per Capita by Sector in Current Dollars (2008)[32]**




### *Trade*

Not surprisingly, Iraq's trade balance is largely a function of its oil exports, which constitute over 95 percent of Iraq's exports of goods. Thus, in 2009, when oil demand plummeted, Iraq's incurred a trade deficit of 11.2 percent of GDP. Nonetheless, Iraq's significant and growing oil exports have allowed it to run trade surpluses for every other year (see **Table 11**). Iraq's non-oil exports decreased sharply in 2009 and were projected to recover to pre-2009 level by 2011 and then enjoy robust growth.

**Table 11: Trade Balance (in Million USD)**

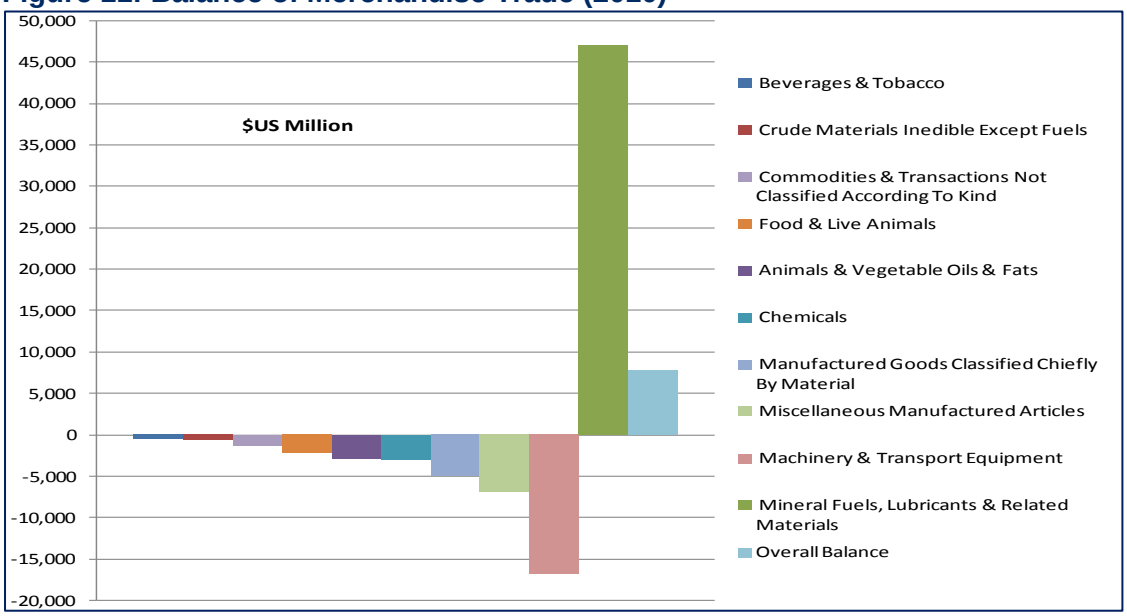
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|
| Trade Balance | 13,266 | 21,200 | -7,329 | 5,532 | 1,280 | 7,200 | 16,563 | 25,434 | 30,592 |
| (in percent of GDP) | 23.3 | 24.5 | -11.2 | 6.7 | 1.3 | 6.3 | 12.6 | 17.4 | 18.9 |
| Exports | 37,835 | 62,013 | 38,439 | 50,753 | 62,295 | 73,804 | 88,130 | 99,650 | 110,779 |
| Oil | 37,137 | 61,164 | 38,243 | 50,077 | 61,430 | 72,599 | 86,221 | 97,099 | 108,003 |
| Non-Oil | 698 | 849 | 196 | 677 | 866 | 1,205 | 1,909 | 2,551 | 2,776 |
| Imports | -24,569 | -40,813 | -45,768 | -45,222 | -61,015 | -66,604 | -71,567 | -74,217 | -80,187 |

**Source: IMF Country Report No. 11/75**

Since non-oil exports constitute such a small percentage of Iraq's total exports, they have little impact on the trade balance, which is determined both by oil export growth and rapidly growing imports. **Figure 11** shows how the positive balance of trade is due to oil alone, while categories of all other products show net imports. Oil's dominance raises the specter of Dutch disease effects hampering the competitiveness of Iraqi products, a concern that will be discussed in Part 4.1.3.

[32] The graph is based on data from ILO and COSIT.

**Figure 11: Balance of Merchandise Trade (2010)**




***Oil***

As the above narrative makes clear, Iraq's economic success is tightly tied to the fate of oil. The NDP recognizes oil's centrality to Iraq's economic development, while also articulating a commitment in the long-term to a more diversified economy that will allow for more balanced and widely distributed economic opportunities. As such, it seeks to invest heavily in oil at the outset as a means to rapidly increase the financial resources available for capital investment into other sectors of the economy.

Iraq's success in fostering the growth of the oil sector will be largely a function of GoI investment and private investment. In recognition of the oil sector's foundational role for other development initiatives, the NDP called for public investment into the oil sector to constitute 15 percent of the capital budget. In 2010, GoI planned investment in the oil sector was 12 percent of the budget; in 2011, 19 percent; and in 2012, 29 percent. Thus, GoI has actually gone significantly beyond NDP's investment targets, although this has come at the expense of other sectors. Such rapid growth in investment appears to be unsustainable, however, since the Ministry of Oil's budget execution rate fell from 91 percent in 2010 to an estimated 16 percent in 2011.

Private investment has also been strong, but significant challenges remain in the investment environment, which threaten to diminish investment. Early on there were delays in investment outlays to upgrade the oil sector according to IMF reports published earlier in 2011, including payments to international oil companies (IOCs) for recovery of their costs. Iraq still lacks a hydrocarbon law and a comprehensively enabling legal framework for contracting, employment and importation of equipment. The escalating conflict with IOCs entering agreements with KRG also creates uncertainty in the investment environment.

More recently however, Iraq has signed production agreements with the IOCs that, if fulfilled, would give Iraq ample budget surpluses through 2020. Despite the shortcomings in the investment environment, IOCs are coming into Iraq in increasing numbers as successful bidders and subcontractors on the technical service contracts offered by the GoI. A fuller account of the oil sector and its opportunities and challenges can be found **Annex A.2.**

### 5.1.2 Macroeconomic Projections and GoI Plans and Priorities

The economy of Iraq has great potential because of its large and growing production of crude oil. Under IEA price assumptions, oil revenue will increase roughly by 80 percent, from $102 billion to $181 billion, by 2015 (see **Table 12**). As long as Iraqi authorities are able to maintain low inflation while steadily increasing the nation's financial buffers to ease the impact of potential oil price shocks, and as long as the benefits of the oil income are utilized to promote broad-based economic development, the Iraqi population can expect to enjoy rising standards of living and progressively reduced economic and social uncertainty in the medium term.

**Table 12: IEA Oil Revenue Projections (Billions USD)**

| Scenarios | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| High IEA Price/High Production | 116 | 133 | 153 | 178 | 195 | 213 | 233 | 255 | 281 |
| Low IEA Price/Low Production | 78 | 89 | 102 | 119 | 130 | 143 | 156 | 170 | 188 |
| IEA Forecasted Price/GoI Oil Targets Met | 102 | 124 | 150 | 181 | 220 | 268 | 325 | 395 | 538 |

**Source: International Energy Agency**

Rising oil revenue will also generate a windfall of government revenue that will allow the GoI to substantially increase both the operating and capital budgets. Following the oil-induced economic contraction in 2009, GoI has increased its budget annually by 20 percent or more. Increases in operational expenses have allowed for salaries to be raised and for public employment to be expanded. In order to avoid unsustainable fiscal obligations, a public sector-dominated economy, and inflation from such rapid fiscal expansion, fiscal discipline will be vital even in the midst of growing political pressure to expand the government.

**Table 13: GoI Budgets in Trillion ID (2008-12)[33]**

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| Operating Expenditures | 52.4 | 46.3 | 52.2 | 66.6 | 79.9 |
| Capital Expenditures | 21.7 | 12.8 | 20.2 | 30.1 | 37.2 |
| *(as % of Total Budget)* | *29%* | *22%* | *28%* | *31%* | *32%* |
| **Total Budget** | **74.1** | **59.1** | **72.4** | **96.7** | **117.1** |

As for capital investment, the NDP calls for 30 percent of GoI budgets to be allocated toward capital investment, a target that it met both in 2011 and in the proposed 2012 budget (**Table 13**). NDP also provides a breakdown of these capital budget allocations (see **Table 14**). It places particular emphasis on oil, electricity, and agriculture, which it sees as critical sectors that, once strengthened, will help generate more balanced economic growth. Analyzing the degree to which these allocations have been fulfilled is more difficult since several of these categories cross ministries, so direct comparisons with ministry budgets are not sufficient. Nevertheless, a cursory analysis suggests that the budget allocations have not been guided by the NDP. In the proposed budget for 2012, 29 percent of the capital budget is allocated toward the Ministry of Oil and 13 percent toward the Ministry of Electricity. These higher allocations appear to be coming at the expense of sectors such as agriculture, health, education, manufacturing, and transport.

[33] These figures are compiled based on data provided by GoI.

### Table 14: NDP Sector Allocations

| Sector | NDP Allocation |
|---|---|
| Agriculture | 9.5% |
| Oil | 15.0% |
| Electricity | 10.0% |
| Manufacturing | 5.0% |
| Transportation and Communications | 9.0% |
| Construction, Building and Services (Water, Health, Sports, Tourism, Culture) | 17.0% |
| Education | 5.0% |
| Province Development | 12.5% |
| KRG | 17.0% |

Low budget execution is a rising concern with respect to the feasibility of the NDP which is premised on rapidly increasing capital expenditures directed toward stimulating economic growth. Budget execution for capital expenditures in 2011 was estimated to be at 33 percent. If analyzed at the ministry level, there is significant cause for concern. In 2009, the estimated budget execution for the Ministry of Oil was 16 percent; for the Ministry of Electricity, 15 percent; for the Ministry of Health, 25 percent; for the Ministry of Transport, 16 percent; and for the Ministry of Agriculture, 14 percent. If GoI's absorptive capacity does not increase significantly, the investment levels that the NDP calls for will not be realized.

Rapid revenue growth likely resulted in a budget surplus in 2011, something that is likely to continue in the years to some. This so-called "oil dividend" will confront GoI with difficult choices as to how best to use these funds in the best interest of Iraq's long-term economic growth. The NDP calls for the establishment of foreign reserves at a minimum of a pre-set percentage of the real non-oil GDP and then for surplus reserves to be deposited into a Sovereign Wealth Fund. Examples of how other countries have handled surplus revenue generated by oil can be found in Part 5.1.3 on the "Resource Curse." A discussion on options for how such a fund could be used will be further outlined in Part 6.1.1.

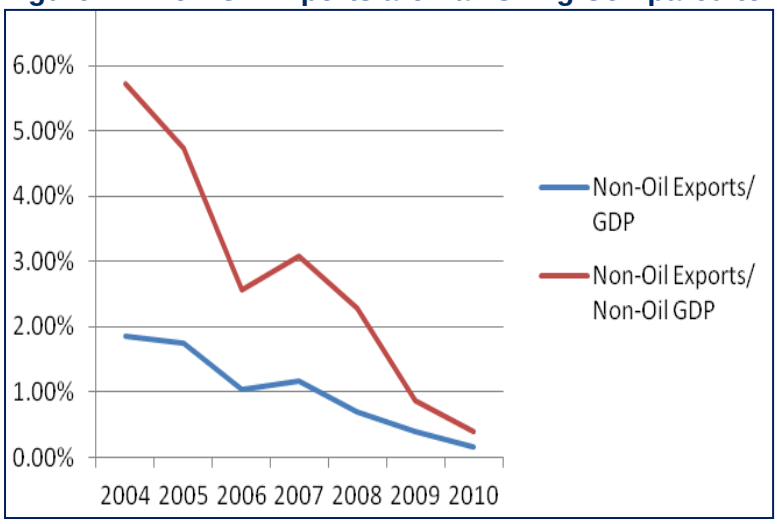
### 5.1.3 The "Resource Curse"

There is a large literature on the economic phenomenon known as the "resource curse."[34] One aspect of the "curse," which is often called "Dutch disease," refers to the decline in competitiveness of non-oil tradable goods and services following real exchange rate appreciation caused by the rapid infusion of new income into a country. Large inflows of foreign exchange from a single product such as petroleum will cause domestic wages to rise relative to wages in other countries. This will, in turn, increase the relative cost of producing all other tradables, progressively narrowing the export base and increasing imports. In addition, because oil is such an attractive sector to invest in, other sectors are starved for credit.

[34] See, for example, Neumeyer, E., 'Does the ''Resource Curse'' Hold for Growth in Genuine Income as Well?' *World Development 32*, 1627-1640, 2004.

**Figure 12** shows that even as a percentage of non-oil GDP, the share of non-oil exports is vanishing. This is plausible evidence of Dutch disease because it shows tradables other than oil being pushed out of existence. Tradable consumer imports are increasing at double the pace of total imports. Similarly, the National Income Accounts data show a progressive decrease in agricultural and manufacturing production in proportion to GDP since the 1980s, to the point where, taken together, these sectors accounted for less than 7 percent of GDP in 2010. Of course, as **Annex A** will discuss more fully, there are systemic and productivity constraints that also work together to weaken Iraqi competitiveness.

**Figure 12: Non-Oil Exports are Vanishing Compared to Non-Oil GDP**[35]




A second characteristic of the resource curse is that it drives a wedge between the government and the people. This occurs because governments receive so much of their necessary revenue from the export of petroleum that they do not need to levy taxes on citizens. As a result, citizens who pay nothing to their government often find it difficult to hold the government accountable for its actions. The absence of taxes also makes it easier for governments to disregard the demands of their citizens. Since they (citizens) pay little or nothing in taxes, governments can ignore them with impunity. The "tax-bargain" is absent.

Some economists have shown how these two aspects of the resource curse are inter-related. They have posited that the tendency of the export base to narrow, and import dependence to increase, as observed in numerous petroleum exporting countries in the developing world, may in fact stem from their policymakers' lack of initiative in pursuing needed economic reforms because of the cushion afforded by rising oil income.[36]

Various countries have sought ways to avoid the resource curse. Norway is considered a good example of how to manage large inflows of revenue from the export of natural resources. The country established a "Petroleum Fund of Norway"—a sovereign wealth fund—which is invested 60/40 in stocks and bonds. All earnings from the investments are reinvested in the fund. The only time the fund is used is if the government is forced to run a deficit. Norway has a fairly high tax burden on its citizens so the citizens expect and receive many public services—Norway has a credible "tax bargain." The approach results in almost complete "sterilization" of the oil revenue; this means that the exchange rate is unaffected by

[35] Data drawn from ITC calculations based on United Nations Statistics Division and International Monetary Fund statistics.

[36] Auty, R.M., 'Industrial Policy Reform in Six Large Newly Industrializing Countries: The Resource Curse Thesis,' *World Development 22*, 11-26, 1994.

the oil revenue. The fund is set up to meet emergencies but primarily to benefit future generations when the oil is depleted.

In Brazil, the municipalities (local jurisdictions) from which oil is extracted receive a royalty payment based on the amount of oil extracted from the municipality. Research shows that the oil boom has led to increases in public spending, but has had little or no effect on non-oil GDP in Brazil. Research also shows that the royalty system has led to increases in corruption of public officials.[37]

Chad is another useful—though negative—illustration. Despite the best efforts of the international community to see that an offshore fund was established—and that some of the new income was used to launch Chad's economic development—its fragile political process collapsed and the contracts made with the World Bank failed to stop the President from taking control of all the oil revenue for current budget expenditures. Another important lesson from Chad concerns the folly of distributing a share of the new income to the localities from which oil is extracted.[38] Citizens living in the rest of the country, who do not enjoy the accidental windfall of geography, wonder why just a few regions, or a few of their fellow citizens, should enjoy such benefits. They are aware that those fortunate individuals have certainly done nothing to enjoy such largess. The lesson from Chad is both economic and political. But the political lesson is of greatest importance to Iraq. Fortuitous economic windfalls that accrue--to but a subset of a nation--hold the real prospect of generating political jealousies and destabilization. Iraq cannot possibly afford such results.

As a countermeasure to the resource curse, Iraq is applying to get full membership in the Extractive Industries Transparency Initiative (EITI). The EITI is a coalition of companies, governments and civil society organizations established to ensure that natural resources are used to benefit all people. EITI sets a standard for companies to report what they pay and for countries to report what they receive. Iraq is now a candidate country, having declared that it intends to meet all the requirements of EITI. An expressed purpose of the EITI is to combat corruption that goes hand-in-hand with natural resource extraction.

Other policy responses to the resource curse will be discussed more fully in Part 6.2.1.

## 5.2 MICROECONOMIC ANALYSIS

Economic engagement is the most important consideration for economic policy in societies emerging from conflict. Civil conflict disrupts economic processes often inflicting great damage to the formal economy and to its supporting infrastructure. It is therefore important to draw people out of conflict-induced autarky to bolster consumer confidence, generate job creation, and increase liquidity. As households and firms being to re-engage, however, the impediments to economic renewal become apparent. If policy reform is allowed to address these many impediments to the emergence of a newly viable market, economic growth can begin to take hold. On the contrary, if government policies remain distortionary and adverse to private sector development, investors and consumers will be reluctant to re-engage in the formal economy. Growth will be stifled and job creation suppressed.

In this section, analysis will be directed toward an array of distortions in the Iraqi economy that are preventing markets from working efficiently and effectively. The focus here is on

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[37] Monteiro, Joana and Ferraz, Claudia. "Does Oil Make Leaders Unaccountable? Evidence from Brazil's Offshore Oil Boom," unpublished, PUC-Rio, 2010; and Caselli, Francesco and Michaels, Guy. "Do Oil Windfalls Improve Living Standards? Evidence from Brazil," CEP Working Paper No. 960, December, 2009.

[38] Winters, S. Matthew and Gould, John A. "Betting on Oil, The World Bank's Attempt to Promote Accountability in Chad," *Global Governance* Vol. 17, 2011.

areas created either by government overreach (e.g., excessive regulation, distorting subsidies) or government failures (e.g., corruption, weak security).

### *Constraints to Business Enabling Environment - Economic Governance*

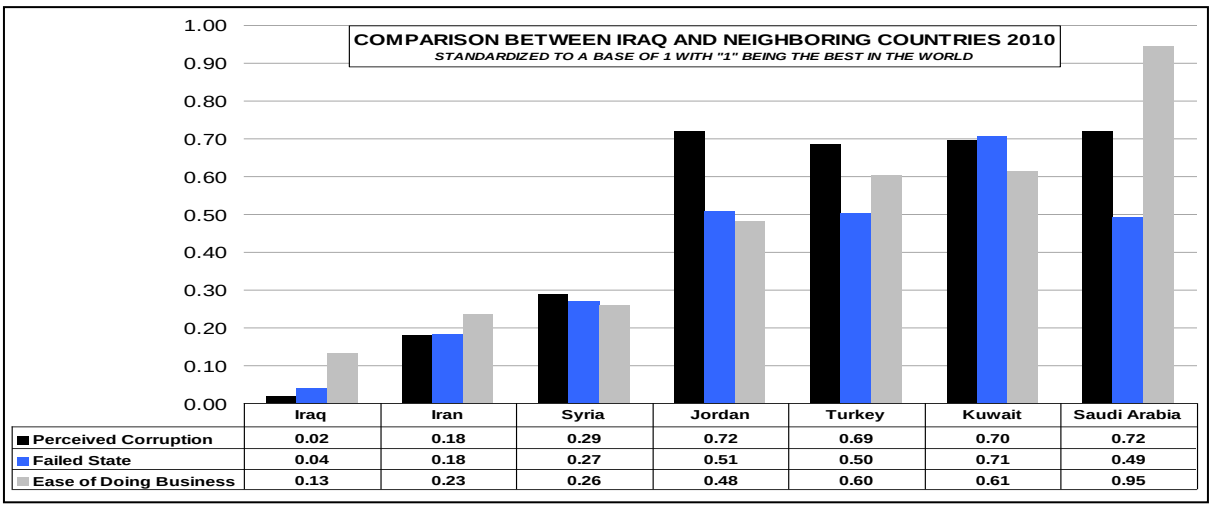
There is no strict definition of "economic governance" but one USAID paper defines it this way:[39]

"The enabling environment within which the economy functions; it implies the need to ensure stable, transparent and predictable rules and regulations that encourage competition and equitable access to public services. Economic governance is achieved through a country's public *and* private sector institutions that exert a determining or guiding influence in or over how individuals, enterprises, and/or countries carry out economic transactions."

To evaluate Iraq's "enabling environment" for private enterprise growth and productivity, the Economic Assessment Team referenced standardized measures such as the World Bank Doing Business Indicators as well as various reports that have been assembled. It also incorporated its findings from numerous interviews with private sector actors. Not surprisingly, this research revealed an environment that is not conducive to balanced and sustainable economic development. Iraq's ranking on almost all economic governance measures, including its regional ranking is extremely poor.

**Figure 13** compares the ranking of Iraq with its neighbors on three indicators – the perceived level of corruption, the perceived effectiveness of Iraqi ministries, and the ease of doing business. These are percentile rankings, so, for example, Iraq's score of 0.13 on ease of doing business means that 13 percent of world's countries are below (worse) on this indicator. Regionally, Syria and Iran also rank low on these three indicators, although they are still ranked higher than Iraq.

**Figure 13: Relative Ranking of Iraq on Selected Indicators[40]**




| | Iraq | Iran | Syria | Jordan | Turkey | Kuwait | Saudi Arabia |
|---|---|---|---|---|---|---|---|
| Perceived Corruption | 0.02 | 0.18 | 0.29 | 0.72 | 0.69 | 0.70 | 0.72 |
| Failed State | 0.04 | 0.18 | 0.27 | 0.51 | 0.50 | 0.71 | 0.49 |
| Ease of Doing Business | 0.13 | 0.23 | 0.26 | 0.48 | 0.60 | 0.61 | 0.95 |

The Ease of Doing Business (DB) Survey evaluates the impediments to starting, operating, and liquidating businesses and, using standardized scenarios, compares them across countries.

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[39] United States Agency for International Development [USAID]. Bureau for Latin America and the Caribbean [LAC]. "Rethinking the Rural Economy in LAC." Unpublished paper, [2001].

[40] Table is based on data from the World Bank Group, Transparency International and Fund for Peace. While Transparency reports on perception of corruption, Worldwide Governance Indicators rate Iraq's Control of Corruption similarly low at 0.048, below all MENA countries. (http://info.worldbank.org/governance/wgi/sc_chart.asp).

Iraq has initiated few meaningful reforms since it was included in the first DB surveys in 2005. This failure to reform has translated into a lowering of its relative standing among surveyed countries, from the bottom 25 percent in 2005 to the bottom 10 percent in recent years. **Table 15** shows Iraq's place among 183 surveyed countries, overall and in the ten sub-rankings, in descending order based on the most recent survey.

**Table 15: Ease of Doing Business Rankings**

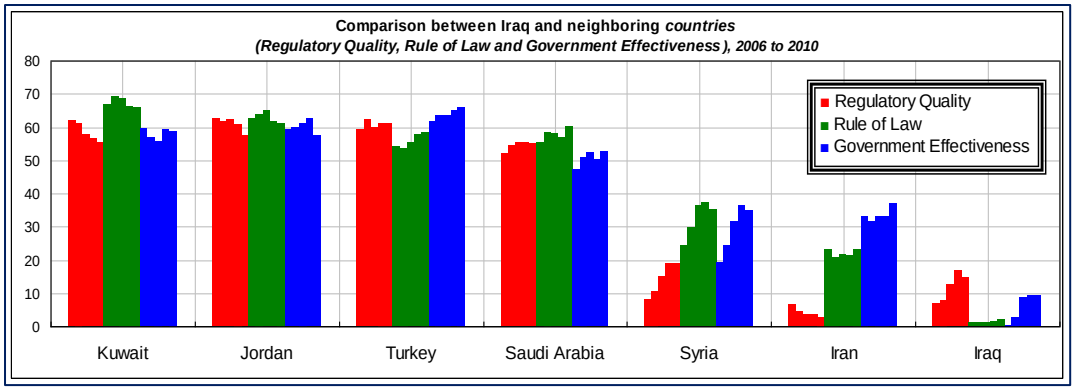
| Category (Ranked by Iraq's relative place in the world) | Ranking (June 2011) | Ranking (June 2010) | Change y-o-y |
|---|---|---|---|
| 1. Resolving Insolvency | 183 | 183 | no change |
| 2. Trading Across Borders | 180 | 180 | no change |
| 3. Starting a Business | 176 | 174 | +2 |
| 4. Getting Credit | 174 | 170 | +4 |
| 5. Enforcing Contracts | 140 | 140 | no change |
| 6. Protecting Investors | 122 | 120 | +2 |
| 7. Dealing with Construction Permits | 120 | 114 | +6 |
| 8. Registering Property | 98 | 95 | +3 |
| 9. Paying Taxes | 49 | 46 | +3 |
| 10. Getting Electricity | 46 | 47 | -1 |
| Overall Score | 164 | 159[41] | +5 |

Failures in these areas make economic development difficult to achieve. For example, on access to credit, Iraq ranks 174 out 183 countries on this indicator. This means that businesses are starved for much-needed capital for both investment and operational costs. The result for one indicator that appears positive, "access to electricity" is somewhat misleading. This indicator refers to the ability of a warehouse to obtain a connection to the national grid. In Iraq the vast majority of households and firms are connected to the national grid or could obtain access with relative ease. The problem is that the Ministry of Electricity is only capable of meeting 50 percent of the power demand and provides electricity only 8 hours a day on average. The lack of electricity has posed severe constraints on business creation and expansion and has severely impeded job creation.

Taken together, these surveys, present a rather bleak picture of state functionality in Iraq. The basic conditions needed to foster a climate conducive to forming private sector businesses and allowing them to expand and sustain themselves are mostly absent. Exacerbating the situation is that Iraq has been reluctant at best to enact reforms. In the meantime its regional neighbors are making sufficient progress such that Iraq is falling further behind. The degree to which Iraq lags its regional neighbors in fostering economic growth through effective government is seen in **Figure 14**.

[41] In the previous edition of DB, Iraq was quoted as being #166 among the 183 countries. In the last edition, authors of the survey have added a new category ('Getting Electricity') among the rankings, and calculated it for last year as well. That addition led to a retrospective re-ranking of Iraq for last year, from #166 to #159.

**Figure 14: Rule of Law and Government Effectiveness: Iraq Compared to the Region**




## 5.3 INSTITUTIONAL ANALYSIS

### 5.3.1 ECONOMIC INSTITUTIONS AS ENABLERS OF ECONOMIC COHERENCE

The economic diagnostics, undertaken in Part 5.3, focuses attention on the institutional architecture of the Iraqi economy. By institutional architecture we mean the constellation of administrative rules, formal laws, customs, and practices that determine how an economy will function—and how it will respond to particular perturbations. It is the administrative rules and laws that are the necessary objects of policy reform of an economy that suffers from severe dysfunction.[42] This institutional architecture indicates what:

> ...individuals must or must not do…, what they may do without interference from other individuals…, what they can do with the aid of collective power…, and what they cannot expect the collective power to do in their behalf… [Commons, 1924, p. 6].[43]

Notice the presence here of a "collective power"—what is more properly understood as a country's authoritative agents. Authoritative agents are the official government structures—parliament, courts, and various administrative bodies at the central as well as the regional levels. This is of special importance in a post-conflict setting such as Iraq because in those settings, the regular order of economic processes has often broken down. Such economies approach the situation of "no law." Sometimes the necessary authoritative agents are either absent, or they are not to be trusted—or cannot be relied upon. In such settings, economic processes become dysfunctional. The economy cannot function under these conditions.

In economic terms, when the institutional architecture of an economy is in disarray, all economic activities must contend with high transaction costs. Transaction costs entail: (1) the costs of gaining necessary information about promising market opportunities; (2) the costs of arranging market transactions; and (3) the costs of enforcing market transactions once they have been completed. In the face of high transactions costs, market opportunities disappear and economic agents withdraw into a state of localized autarky. Households and firms restrict the spatial domain over which they engage the market, primarily as a way to minimize the risks associated with broader scopes of transacting in a dysfunctional

[42] Bromley, Daniel W. and Glen D. Anderson. 2012. Vulnerable People, Vulnerable States: Redefining the Development Challenge. London: Routledge.
[43] Commons, John R. 1924. Legal Foundations of Capitalism London: Macmillan.

institutional domain. As reluctance to engage the market spreads and deepens, the general dysfunction is exacerbated. Post-conflict societies are locally autarkic.[44]

In Section B, Part 4.2 we identified a number of serious constraints in four systemic economic activities (water, electricity, oil & gas, and freight & logistics), and in five productivity centers (greenhouse horticulture, housing and light construction, tourism, health, and education). Those constraints arise and persist because of widespread institutional decay that itself is a result of years of central planning under Saddam Hussein, and then a decade of war and civil conflict. Market processes have atrophied over these many years and it will take concerted development assistance to revive those essential characteristics of a well-functioning market. At this time, greenhouse horticulture farmers cannot obtain high-quality seeds, they are unable to lease or buy necessary equipment, they cannot acquire water of sufficient quality and quantity, credit markets are dysfunctional, and the latest information on best practices is unavailable because agricultural extension services are unavailable. These impediments can be traced to institutional failures in the economy.

We see that housing and light construction is also constrained by flawed or dysfunctional credit markets, by problems with land titles, by problems in enforcing contracts, by problems in obtaining the necessary permits, and by flaws in the urban planning process. Freight and logistics is rendered dysfunctional because of the inability to acquire diesel fuel, by excessive delays and bribes along the highways, by bureaucratic wrangling at ports, by administrative weaknesses in the Ministry of Transport, and by failures in the logistics of arranging for cargo. Other economic activities are similarly impeded by flaws in the institutional architecture of Iraq. These instances of defective governance, of failures of accountability, of burdensome and ineffective oversight, and of myriad other institutional failures conspire to keep the Iraqi economy comprehensively dysfunctional.

The essence of these defects in the Iraqi economy can be characterized as the absence of economic coherence. An economy coheres when it is capable of offering opportunities for individual economic initiative that are conducive to enhancing the productivity and efficiency of firms and households. When market processes do not cohere, they are unable to work in a way that gives rise to meaningful signals regarding particularly promising economic possibilities. Markets are signal-emitting processes, and when markets work well then millions of individuals receive, process, and act on those signals to plan their livelihood strategies. This is what we mean by economic coherence.

On the other hand, when individuals are thwarted by economic incoherence—flawed price signals, credit rationing, inexplicable legal barriers, intrusive regulatory sclerosis, high risk of random outcomes, unreliable input markets, monopolized product markets, dysfunctional freight and transport arrangements, bribes and countless checkpoints along highways—they are trapped in an economy that does not function for the benefit of its participants. Individuals necessarily withdraw into localized autarky. What looks like an economic problem is really an institutional problem. Individuals are trapped and have no means whereby they might eliminate the delays and bribes along the highway, they have no way to improve the reliability of electricity, they cannot influence the reliability of seed supplies or water, they cannot obtain necessary credit, nor can they obtain the help of an agricultural extension agent. They are unable to obtain necessary licenses or permits, local bureaucracies provide no assistance, other inputs are unavailable, and therefore nothing seems to work as it must if the economy is to recover from war and civil discord. Every one of these problems can be traced to institutional flaws in the economy.

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[44] We stress “local autarky” because in Iraq it is estimated that 80% of vegetables in the market are imported from Iran. This opportunity for trade is made possible by the near-collapse into autarky of Iraqi vegetable production.

Economic incoherence arises, as well, because of flaws in local and national governance. The economic system cannot work as it should because the political system is in disarray. The effects on individuals are economic in their impacts on the firm or the household, but the reasons for the overall incoherence lie in the political arena. Markets work well if and only if there is a compatible and responsive political and legal system working sympathetically with what we imagine are "autonomous" market processes. Dysfunctional economies do not cohere. The fundamental problem here is not the simple prescription of "getting prices right." Rather, the central challenge is to create economic coherence by fostering institutional change. The need is for enhanced governance, which will then lead to improved institutional arrangements, from which economic coherence flows. The need is to rectify institutional flaws through the process of selective and opportunistic policy reform.

Coherent economies are dynamic because their policies are purposefully adaptive. Dynamic economies possess the necessary political structures and processes to address the problems of dysfunctional sectors and sub-sectors—what we call economic activities.

A focus on economic coherence means that progress in Iraq will only come from a comprehensive attempt to identify and mitigate the pernicious dysfunctions that keep economic activity quarantined by the inescapable tendency to autarky. The institutions of concern in Iraq are the formal and codified legal rules that conspire to defeat economic initiative.

### 5.3.2 SYNTHESIS OF INSTITUTIONAL IMPEDIMENTS TO ECONOMIC COHERENCE

Considering the numerous constraints identified in Section B, Part 4.2 allows us to identify some common elements that impede productivity and coherence in the Iraqi economy. In **Table 16** we see five general types of existing constraints, each one of which entails the need for targeted policy reforms.

**Table 16: Redefining Constraints as Policy Reform Opportunities**

| PROBLEM AREA | SPECIFIC CONSTRAINTS |
|---|---|
| GENERAL GOVERNANCE ISSUES | • Water supply, wastewater, Shatt Al-Arab Marshland Ecosystem, oil administration and law, Ports, tourism, regional integration |
| HUMAN RESOURCE CAPACITY | • Water end users, agricultural practices, labor force skills, marketing and promotion, budgeting. |
| LEGAL PROTOCOLS | • Contract enforcement, permits, urban planning, security, investment law. |
| ORGANIZATIONAL REFORMS | • Ministry management and accountability, regulatory reform for Ministry of Electricity, public-private partnerships, |
| INPUT MARKETS | • Fuel and power supplies, seed supply and quality, access to affordable equipment, fuel for generation, water supply and quality, retailing of petroleum, |

| PROBLEM AREA | SPECIFIC CONSTRAINTS |
|---|---|
| | access to input materials, access to credit, road conditions and management, freight procurement & logistics |
| INVESTMENTS | • Water supply infrastructure, refining capacity, accommodation capacity and quality |

These general categories will be useful guides to the formulation of development-assistance programs to improve the performance of Iraq's economy.

## 5.4 SUMMARY AND IMPLICATIONS

The general picture that emerges is that Iraq is being held together by its high and rising oil revenues. The political process in Iraq has been unable to launch a feasible reform program for the dysfunctional private sector. The macroeconomic outlook is promising because of oil revenue that allows the GOI to follow an expansionary fiscal policy. Government is often—of necessity—the employer of first resort. The public sector is often the only entity hiring labor. So far, the government has been able to maintain some degree of national coherence because of its public-sector employment strategy, and the Public Distribution System or "ration card" distribution of free food.

Yet almost 40 percent of GDP is produced by the private sector, a worthy accomplishment given all the constraints and dysfunctions in place. The enabling environment for business is one of the worst in the world—Iraq ranks in the bottom 10 percent of nations in terms of the ease of doing business. Iraq shares this distinction with Somalia and Guinea-Bissau. The Constitution of 2005 and the current proportional representation electoral system have produced a legislature and coalition governments which can only occasionally reach consensus and agree on positive reforms. As a result, it has been difficult to shepherd GOI-donor- and international organizations-proposed laws such as the Oil and Gas Law or the Economic Reform Law through the complicated and long Executive and Legislative processes. To date, most of those initiatives almost surely were delayed in passing many laws unless the GOI parties agree to speed up the economic reform process.

The economy lacks the coherence to function as a market-orientated system. Serious policy reforms are needed to attain necessary certainty for Iraqi citizens. They need a stable and adequate electricity supply, a safe source of drinking water pumped to residences, and indeed an augmented housing stock to allow approximately one-half of the families to escape slum conditions. Policy reforms are needed so that markets can function, thereby assuring that prices can act as signals of relative scarcity. Without these reforms, adequate private sector employment and a diversified economy will be impossible.

# SECTION C – FINDINGS & RECOMMENDATIONS

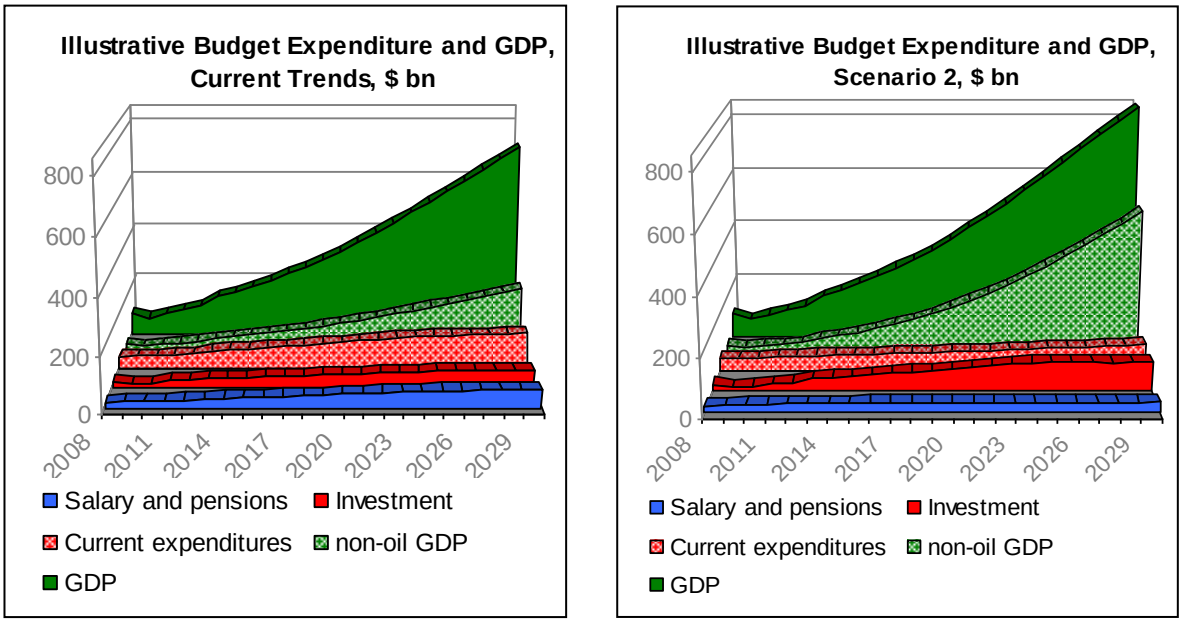
# 6. Findings and Recommendations

## 6.1 POLICY POSITIONS

***Channeling oil and gas revenues to lead the charge in generating non-oil based growth is of paramount importance***. This implies investments that support economic diversification as a key driver of economic policy through the creation of an enabling environment and investments that remove the binding constraints to growth. The results of this assessment, which highlight ***de jure*** (stated) and ***de facto*** (actual) economic development priorities, identify various departures from normative economic thinking and links these observations to guide the composition of future donor spending, whilst proposing a set of corrective measures to strengthen existing investments. Therefore, assessment results provide a rich set of insights into the challenges of improving economic governance in Iraq, whilst also presenting practical solutions to strengthen future engagement. In this sense, and based on the overall thrust of the National Development Plan, the following three major policy positions are proposed:

- ***Progressive diversification away from oil and gas***: While oil and gas production, exports and revenues increase in real terms, over time the share of other sources of growth increases thereby laying the foundation for a sustainable non-oil based future;
- ***Inclusive (broad-based) growth to minimize the risks of instability***: Adopting a policy of broad-based growth lays the foundation for a transparent democratic process where natural resource wealth is not captured by elite groups; and
- ***Progressive increase in capital and O&M spending***: That wage and non-wage recurrent costs (which have limited growth effects) reduce; and capital spending and spending on operations and maintenance increases as a percentage of total spending.

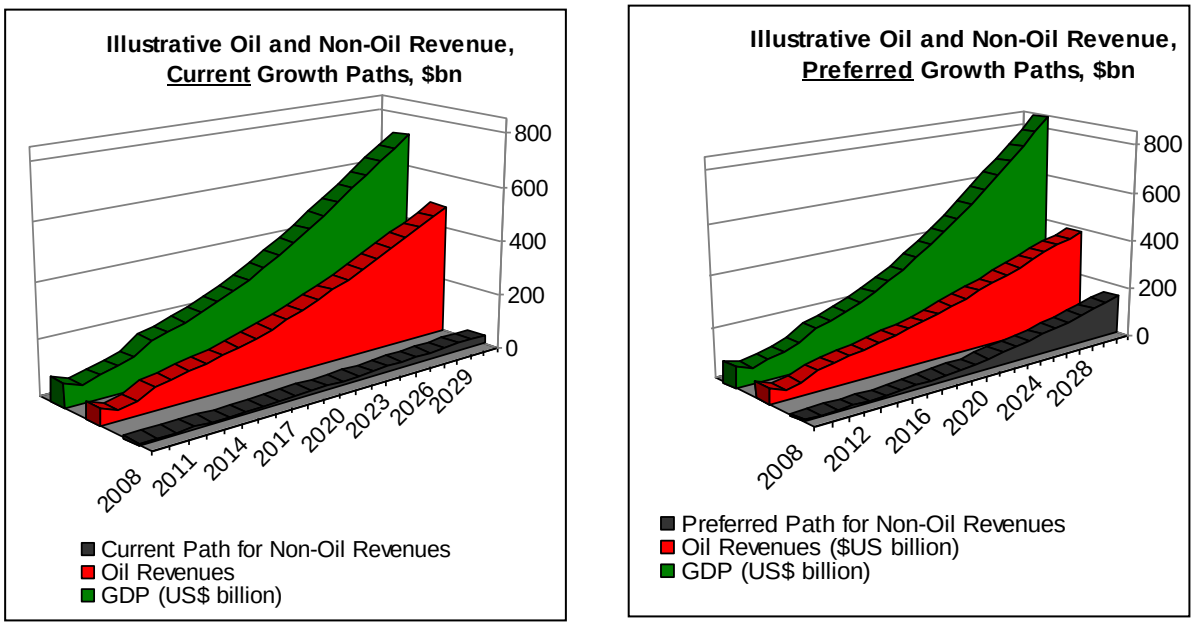
**Figure 15 Outcomes of Different Expenditure Patterns for GDP**




The two graphs (**Figure 15**) show the outcome of different expenditure patterns for GDP. Both are illustrative rather than projections. On the left, is a scenario based on current budget spending trends and patterns, with data up to 2011 based on IMF Country Report 11/75. On the right, 'Scenario 2', is an outcome in which the wage bill and other operating

expenditures rise at a much less rapid pace than has been the recent trend, with the difference being added to investments channeled to activities in non-oil sectors. As a result, there is a rise in both GDP and in the proportion of non-oil GDP to the total GDP, resulting in a more diversified economy.

**Figure 16 Result in Terms of Composition of Government Revenues**




The two graphs (**Figure 16**) illustrate the result in terms of composition of government revenues. Projecting out the current trends in oil and non-oil based revenues until 2030 (on the left), it is clear that the current path of non-oil revenues, when seen against rising expenditures, risks deepening oil dependency. The graph on the right is based on 'Scenario 2'.

## 6.2 TARGETED POLICY REFORM INITIATIVES

The overarching findings of this Economic Assessment comport with and expand upon on the results of other recent studies. Iraq is a mono-dimensional economy dependent on the export of crude oil to finance almost its entire government budget. Decades of statist policies have stifled the development of a diverse and thriving private sector. Government policies continue to militate against the formation and viability of firms across all sectors. Credit markets are undeveloped, and labor and energy markets distorted.

Exacerbating the problem is that despite the large influx of oil revenues, the GOI has made little progress in rebuilding and maintaining the critical infrastructure needed to support a competitive private sector. Electricity is supplied at a level that meets only 50 percent of consumer demand, transportation networks are in a state of disrepair, water supply and sanitation infrastructure are dilapidated, and other critical public services such as the provision of education and health services are inadequate to meet the needs of a growing population and modern economy.

For Iraq to succeed in building a vibrant and modern economy that is more broadly-based and that over time will be led by a competitive private sector, the GOI will have to institute major reforms, and invest in physical infrastructure and human capital.

The elevated level of oil prices and the potential to significantly increase output means that Iraq will have a window of opportunity to invest in rebuilding its economy. Yet it will be faced

with difficult choices on how best to allocate its newfound riches without further distorting the economy. It will need to determine how to best avoid the worst effects of the "resource curse", reform economic governance, and target its efforts on revitalizing critical sectors that would not only generate economic growth and employment but would serve to diversify the economic base. The Economic Assessment conducted a series of diagnostics to identify targets of opportunity for donor assistant as well as reforms that need to be undertaken by the GOI to ensure that technical assistance will achieve its objectives. The following provides recommendations for policy options and for Targeted Assistance on an activity by activity basis.

### 6.2.1 ACTIONABLE POLICY OPTIONS FOR ADDRESSING THE RESOURCE CURSE

Even under pessimistic scenarios, oil production in Iraq will increase by 80 percent over the next six years, and the income from this resource boom will be distributed solely by the state, or by autonomous units of the state. If the oil income can be transparently accounted for, this will ensure that the funds benefit Iraqi society as a whole.

As a countermeasure to the resource curse and to increase transparency, Iraq is applying for full membership in the Extractive Industries Transparency Initiative (EITI). The EITI is a coalition of companies, governments, and civil society organizations established to ensure that natural resources are used to benefit all people. EITI sets a standard for companies to report what they pay and for countries to report what they receive. There are five requirements for the EITI Board to determine if a candidate country can proceed to full membership. Iraq has declared that it intends to meet all the requirements of EITI. An expressed purpose of the EITI is to combat corruption that often goes hand in hand with natural resource extraction.

The increased government revenue from the coming oil boom may be expended in any or all of the following ways:

- Sterilization of the oil income by holding the funds offshore – which would make the economy increasingly secure from oil shocks and provide a means for intergenerational transfer of the benefits of the oil boom; this approach calls for founding a sovereign wealth fund.
- Direct distribution to the citizenry through automatic income transfers, which would increase the extent to which citizens make consumption and investment decisions directly, rather than relying on government to spend the oil wealth.
- Direct or indirect subsidization of the tradables sector, including through tariffs, non-tariff barriers or devaluation of the nominal exchange rate in an attempt to counter the impact of the 'resource curse' without addressing the underlying low productivity of the average Iraqi worker
- Public investments in education and health to enhance the productivity of the Iraqi workforce
- Public investments in infrastructure, such as in energy production and distribution, to enhance the productivity of the Iraqi economy
- Public investments in and subsidies of selected subsectors (e.g., horticulture) picked for their potential to enhance the productivity of the firms producing in those subsectors

With the exception of automatic income transfers to the Iraqi citizenry, all of the above options are being used by the Iraqi government. **The real question for Iraqi decision makers is which of the above options will be emphasized as part of the nation's economic strategy for the future.**

Direct distribution of the oil dividend is possible and recommended by the Center for Global Development.[45] Nancy Birdsall also made a similar argument in a *Foreign Affairs* article.[46] If this solution were adopted, the nation would likely be more cohesive and people would be more likely to trust the GOI. Equally important, this infusion of liquidity would stimulate consumer spending which would benefit the entire economy. The proposal for a direct distribution has also been raised in Iraq by Fadhila and Sadr political movements. Their proposal is for a distribution of $220 to each adult by October 2012. Any estimate of the potential size of oil dividend direct payout depends in the first instance on estimates of future oil revenues and budget surpluses. The population of Iraq in 2011 has been estimated at 32.85 million, which would yield approximately $30 in per capita dividend for every billion dollars of budget surplus, or $195 per household. While the 2011 budget surplus would allow for a significantly higher direct distribution, there are other uses for the oil dividend that should be considered.

To take into account the interests of future generations, revenue from exhaustible natural resources should be managed through a trust fund that should increase with time. Under this scenario, direct distribution would be restricted to investment income earned by the fund. The fund should be able to invest in foreign assets, so that the pressure for the real exchange rate to appreciate would be counteracted. This will be of benefit to Iraq's various non-oil exporting sectors, including agriculture and manufacturing. A portion of fund's assets could, however, be invested in Iraq's infrastructure, through a different mechanism than the current budgetary process, for example by distribution to the Governorates, with provincial government free to devise infrastructure spending programs that would increase the productivity of local firms, thereby creating healthy competition between Governorates. At the same time, the resulting increases in productivity would go some way towards combating the resource curse.

Investing in an ever-expanding public sector is not in the Iraqi national interest and is not their stated policy. By investing in reforms that help revitalize the private sector, Iraq could encourage job creation. Investing in infrastructure and providing subsidies to targeted private-sector activities also makes good development sense.

### 6.2.2 ESSENTIAL ACTIONS FOR BENEFICIAL INSTITUTIONAL AND POLICY REFORM

The constraints identified in **Table 2**, categorized as generic opportunities for policy reform, represent the specific impediments to improved performance of the economic activities identified in Section B, Part 4.2. These four of the nine economic activities were classified as systemic constraints in the Iraqi economy, and an additional five of these activities were classified as promising productivity centers. Urgent and carefully designed initiatives are needed in each of the 46 specific classes of constraints across these nine economic activities. Policy reform focused on these specific constraints hold promising implications for the long and difficult process of revitalizing Iraq's economy.

The roster of nine economic activities, associated development initiatives, and beneficial implications of each reform effort are depicted in **Table 17**.

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[45] West, Johnny. "Iraq's Last Window: Diffusing the Risks of a Petrostate," CGD Working Paper 266, Center for Global Development, Washington, Dc. USA.

[46] Birdsall,Nancy and Arvind Subramanian. "Saving Iraq from Oil," Foreign Affairs, Vol. 83, Number 4, 2004.

## Table 17: Urgent Development Initiatives and Plausible Benefits

| | Economic Activity | Development Initiatives | Development Benefits |
|---|---|---|---|
| SYSTEMIC CONSTRAINTS | Electricity | Fuel Supply for Generation<br>Regulatory Obstacles for MoE<br>PPP Capacity<br>Labor Force Skills<br>Funding and Budgeting | Reliable supplies enable businesses and households to implement plans; reduced regulations enable expedient decisions; partnering with private sector will bring efficiencies in operation; improved staff skills offer important efficiencies; improved financial management produces cost savings and improved revenue. |
| | Water | Water Supply Governance<br>Water End User Practices<br>Water Supply Infrastructure<br>Wastewater Governance<br>Shatt Al-Arab Marshland Ecosystem | Improved supply management improves reliability of deliveries to homes and businesses; improvements in end-user practices bring efficiencies to entire system and reduce total consumptive use; improved infrastructure reduces leakage and other losses; improved governance brings regional coherence to water management; marsh restoration improves livelihood prospects for marsh Arabs. |
| | Freight & Logistics | Port Governance<br>Road Conditions and Management<br>Freight Procurement & Logistics<br>Regional Integration<br>Labor Force Skills | Improved port governance improves logistics; improved road conditions and management speeds movement of goods; improved procurement and logistics reduces total transport costs; regional integration enhances regional trade within Iraq and across borders; improved human capital improves management of entire system. |
| | Oil & Gas | Ministry Management and Accountability<br>Retailing of Petroleum Products<br>Refining capacity<br>Legal Framework | Improved management improves performance of entire distribution system; retail system improvements reduce price to users brining important efficiency gains in economy; institutional improvements in refining bring important supply and price enhancements; reforms in legal environment enhance competitiveness. |
| PRODUCTIVITY CENTERS | Greenhouse Horticulture | Irrigation Practices<br>Access to Credit<br>Processing and Cold Chain Capacity<br>Agricultural Technical Knowledge<br>Input Supply and Quality | Improved irrigation practices bring higher value added per unit of water, and also reduce total water use in agriculture; improved credit markets all for acquisition of land, equipment, seeds, fertilizer, and labor; improvements in marketing chain improve product quality and reduce costs of shipping and handling; new technical knowledge improves efficiency of resource use and enhances product quality; improvements in input supply chain regularizes production and reduces production costs—increasing net incomes to producers and holding product prices low to consumers. |
| | Housing & Light Construction | Labor Force Skills<br>Access to Credit<br>Land Markets<br>Access to Input Materials<br>Permitting Environment | Improved skills improve construction quality and hold down costs; improved credit markets facilitate land acquisition, construction supplies, mortgage availability; improved land markets facilitate optimal spatial allocation of housing developments, hold down land costs, and make consumer and builder planning more efficient; reducing delays and costs of permits enhances efficient working of entire construction sector. |

| | Economic Activity | Development Initiatives | Development Benefits |
|---|---|---|---|
| | Health | Health Governance<br>Management Information System<br>Health Finance<br>Human Resource Capacity<br>Equipment and Medicine | Improved governance brings efficiency to location and management of clinics and primary care facilities; New MIS helps to improve staffing, health records, scheduling, and follow-up visits; improved finance helps to improve technology at lowest possible costs; training of health professionals improves quality of care and holds down staffing redundancies; improved equipment and supplies enhances quality and efficiency of entire health-care system. |
| | Education | Facilities and Equipment<br>Education Governance<br>Teacher and Administrative Capacity<br>Higher Education Curricula<br>Evening Education for Literacy<br>Vocational Education | Improved facilities enhances teacher effectiveness and attracts students to better schools; enhanced governance brings improvements to school locations, curricula, and schedules; improved teacher training and continuing education enhance quality of system; continuing education holds important benefits for entire Iraqi labor force—thus contributing to overall efficiency and performance; |
| | Tourism | Accommodation Capacity and Quality<br>Labor Force Skills<br>Permitting Environment<br>Access to Credit<br>Tourism Governance<br>Marketing and Promotion | Improved stock of tourist accommodations makes sector more attractive to foreign guests; improved labor force brings professionalism to entire activity; improved regulatory procedures facilitate better planning and management of entire activity; removing flaws in credit facilitate new construction and improvements in existing facilities and equipment (busses); enhanced marketing and promotion helps to bring Iraq into the historic/cultural/religious circuit now dominated by Egypt and Jordan. |

### 6.2.3 NECESSARY BUDGETARY ACTIONS TO ENHANCE PRIVATE-SECTOR PERFORMANCE

Central to the findings and recommendations presented here is an implicit understanding that changes in spending priorities will need to take place in order for Iraq to encourage the establishment of a vibrant market economy, where the private sector progressively emerges as the primary driver of growth and employment. The role of the budget is absolutely critical to attaining such an objective, given that the budget is generally viewed as the primary instrument of government policy.

Currently, based on review of the composition of public spending between 2003 and 2011, there are a number of inherent contradictions between stated government policy and actual policy in practice as seen through actual appropriations. Prior budget laws highlight that:

(i) While government has a stated commitment to restructure State Owned Enterprises with a view towards progressive corporatization/privatization, in fact staffing and budgetary allocations to SOEs have increased, not decreased, further crowding out the private sector;

(ii) Public sector staffing has more than doubled since 2003 with numbers of employees increasing from around 1.6 million to 3.2 million (including 680,000 SOE employees), making Iraq the largest per capita government in the world. With staffing establishments increasing, alongside salary decompression, numerous wage hikes, pension entitlements and sector subsidies, recurrent costs dominate public spending;

(iii) The Government approved zero per cent interest rate loans made through the state owned banks, including the agricultural bank, undermining commercial operators who provide finance at the going market rate;

(iv) Changing the procurement law to encourage contracting out of services is a measure frequently employed by governments hoping to diversify the economy. Yet such changes in procurement procedures, alongside legacy administrative procedures which re-enforce service provision through government entities, have not been enacted thereby undermining the potential role of the private sector in many activities; and,

(v) While government has established the first top-down fiscal framework, no fiscal stabilization fund has so far been established and as a result, Iraq's growth future is hostage to highly volatile global oil prices. Furthermore, because the current budget is not integrated, and as no sector based medium term expenditure frameworks have been established, sector spending is incremental and not prioritized.

It will therefore be essential for Government to identify the budgetary implications of proposed corrective measures, and to make sure that public spending does not crowd out the private sector at a time when both domestic and foreign investors are considering significant investment. Further, executing measures identified under the national Public Finance Action Plan within the priority sectors will improve the overall enabling environment for growth.

Restraining the growth of recurrent expenditures, and in particular government's wage bill, will free resources for investment. Until Iraq attracts larger flows of private investment, increasing government investment is to be encouraged, particularly in non-oil sectors where the employment multipliers are higher than in the extractive industries, with the employment more likely to benefit the currently marginalized groups. Benefits in terms of revenue to Iraqi input suppliers are also larger, as is the impact on diversifying government's revenue base and diversifying the economy.

## 6.3 TARGETED DEVELOPMENT INITIATIVES AND INVESTMENT PRIORITIES IN SELECTED ECONOMIC ACTIVITIES

### 6.3.1. HIGH PRIORITY AND PROMISING PROGRAMS OF DEVELOPMENT INITIATIVES

In **Table 18** we list the nine economic activities studied by the team. The scores in the table reflect two aspect of our diagnostic approach. Each development initiative was assigned a score for urgency and additionality. Highly urgent initiatives received a score of 5, and those of intermediate urgency received a score of 3. Additionality is an indication of the beneficial effects on other economic activities from correcting a constraint in the activity under consideration. An initiative with high additionality will contribute more to general economic reform than one with low additionality. Additionality was scored as follows: high = 5, medium = 3, low = 1. Weighting of these two attributes gave 60% of the weight to urgency, and 40% to additionality. The individual initiative value (IV) scores within each economic activity were then summed and divided by the number of initiatives considered for each economic activity. These derived average initiative values form the basis of the program value score (PVS) for each economic activity.

## Table 18: Recommendations of High-Value Programs by Economic Activity

| Economic Activity | Development Initiative | Urgency | Additionality | IV | PVS |
|---|---|---|---|---|---|
| Water | Water Supply Governance | 5 | 5 | 5.00 | 4.04 |
| | Water End User Practices | 5 | 5 | 5.00 | |
| | Water Supply Infrastructure | 5 | 3 | 4.20 | |
| | Wastewater Governance | 3 | 3 | 3.00 | |
| | Shatt Al-Arab Marshland Ecosystem | 3 | 3 | 3.00 | |
| Electricity | Fuel Supply for Generation | 5 | 5 | 5.00 | 3.96 |
| | Regulatory Obstacles in MoE | 5 | 1 | 3.40 | |
| | PPP Management Capacity | 5 | 5 | 5.00 | |
| | Labor Force Skills | 3 | 1 | 2.20 | |
| | Funding and Budgeting | 5 | 3 | 4.20 | |
| Freight & Logistics | Port Governance | 5 | 3 | 4.20 | 3.96 |
| | Road Conditions and Management | 5 | 5 | 5.00 | |
| | Freight Procurement and Logistics | 5 | 3 | 4.20 | |
| | Regional Integration | 5 | 3 | 4.20 | |
| | Labor Force Skills | 3 | 1 | 2.20 | |
| Housing & Light Construction | Access to Credit | 5 | 5 | 5.00 | 3.88 |
| | Labor Force Skills | 3 | 3 | 3.00 | |
| | Permitting Environment | 5 | 3 | 4.20 | |
| | Access to Input Materials | 3 | 1 | 2.20 | |
| | Land Markets | 5 | 5 | 5.00 | |
| Oil & Gas | Ministry Management and Accountability | 5 | 1 | 3.40 | 3.80 |
| | Wholesale & Retail Markets for Petroleum Products | 5 | 5 | 5.00 | |
| | Refining Production | 3 | 5 | 3.80 | |
| | Legal Framework | 3 | 3 | 3.00 | |
| Tourism | Accommodation Capacity & Quality | 5 | 3 | 4.20 | 3.67 |
| | Labor Force Skills | 5 | 1 | 3.40 | |
| | Permitting Environment | 5 | 5 | 5.00 | |
| | Access to Credit | 3 | 5 | 3.80 | |
| | Tourism Governance | 5 | 1 | 3.40 | |
| | Marketing and Promotion | 3 | 1 | 2.20 | |
| Greenhouse Horticulture | Irrigation Practices | 5 | 3 | 4.20 | 3.64 |
| | Access to Credit | 5 | 5 | 5.00 | |
| | Processing and Cold Chain Capacity | 3 | 1 | 2.20 | |
| | Agricultural Technical Knowledge | 5 | 1 | 3.40 | |
| | Input Supply and Quality | 5 | 1 | 3.40 | |
| Education | Facilities and Equipment | 5 | 1 | 3.40 | 3.40 |
| | Education Governance | 5 | 1 | 3.40 | |
| | Teacher and Administrative Capacity | 5 | 1 | 3.40 | |

| Economic Activity | Development Initiative | Urgency | Additionality | IV | PVS |
|---|---|---|---|---|---|
| | Higher Education Curricula | 3 | 3 | 3.00 | |
| | Evening Education for Literacy | 5 | 3 | 4.20 | |
| | Vocational Education | 3 | 3 | 3.00 | |
| Health | Health Governance | 5 | 1 | 3.40 | 2.90 |
| | Management Information System | 5 | 1 | 3.40 | |
| | Health Finance | 3 | 1 | 2.20 | |
| | Human Resource Capacity | 5 | 1 | 3.40 | |
| | Equipment and Medicine | 3 | 1 | 2.20 | |

The ranking in **Table 19** must be considered as suggestions to the Government of Iraq concerning essential and promising domains of collaboration. The nine economic activities studied here in great detail have, from the beginning, been discussed with Iraqi officials.

After further discussions, the Government of Iraq/PMAC expressed two levels of interest with respect to programs of work in the nine economic activities. Specifically, the GoI/PMAC expressed a high level of interest in collaborating on development assistance programs concerning: (1) water; (2) freight and logistics; (3) housing and light construction; (4) Greenhouse Horticulture; (5) education; and (6) health. The GoI/PMAC expressed only modest interest in collaborating on development assistance programs concerning: (1) electricity; oil & gas; and (3) tourism. We assigned a score of 5 to these expressions of great interest, and a score of 3 to expressions of modest interest.

The aggregate scoring, combining our diagnostic analysis and the interests of the Government of Iraq are depicted in **Table 19.**

**Table 19: Program Constituents of future partnership between GOI and donors**

| ECONOMIC ACTIVITY | PROGRAM VALUE SCORE | GoI SCORE | SUM |
|---|---|---|---|
| WATER | 4.04 | 5 | 9.04 |
| FREIGHT & LOGISTICS | 3.96 | 5 | 8.96 |
| HOUSING & LIGHT CONSTRUCTION | 3.88 | 5 | 8.88 |
| GREENHOUSE HORTICULTURE | 3.64 | 5 | 8.64 |
| EDUCATION | 3.40 | 5 | 8.40 |
| HEALTH | 2.90 | 5 | 7.90 |
| ELECTRICITY | 3.96 | 3 | 6.96 |
| OIL & GAS | 3.80 | 3 | 6.80 |
| TOURISM | 3.67 | 3 | 6.67 |

GoI's partnership with various donors should be structured to look at a number of focused programs (as outlined above) to remedy serious constraints in the Iraqi economy. Water and freight & logistics represent two profoundly important systemic constraints on improved

economic performance and growth. Another four economic activities – housing and light construction, greenhouse horticulture, education, and health – offer important opportunities for job creation, enhanced liquidity in the economy, revitalized fruit and vegetable production, improved living conditions, and much-needed improvements in social well-being.

The political future of Iraq is critically dependent on quick improvements in economic processes. Economic revitalization is possible with opportunistic development initiatives. The Economic Assessment team's analytical approach points the way.

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# Annex A:

# Status Reports on Key Economic Activities

# A.1 GREENHOUSE HORTICULTURE

## I. Importance and Assessment

This section provides an overview of agriculture with a focus on greenhouse horticulture The rationale for focusing on greenhouse horticulture is that it is labor-intensive, is highly suitable to Iraq's climate, and offers a high return on investment. Additionally, since this economic activity suffers from many of the same conditions found in the overall agricultural sector, addressing the problems afflicting this sub-sector (e.g., input quality and supply, equipment availability) offers the potential for spillover effects to the broader agriculture sector. [1]

Agriculture is a key economic activity due to its role in the Iraq economy, the need for greater food security, and the potential it offers for the diversification of the economy, poverty alleviation and an improved trade balance. Despite the fact that agriculture is the second largest source of employment (after social and personal services), and the fourth largest contributor to non-government GDP, Iraq now is a net importer of cereal, fruits, and vegetables.[2]

Prior to World War II, Iraq was a food exporter. However, years of protracted conflict and diversion of resources and investment away from food production has resulted in the country's agricultural infrastructure (e.g., irrigation canals) falling into a state of disrepair and a decline in overall productivity.[3] The years of international isolation have also meant that Iraq's technical capacity in agriculture is decades behind.

One third of the population resides in rural areas and is dependent upon agriculture as a livelihood. The most recent data on employment composition indicated that agriculture

[1] The major greenhouse products are cucumbers, tomatoes, eggplants, and peppers. Additionally, okra and melons have been identified as offering great potential.
[2] World Bank (2010) Iraq Briefing Book
[3] World Bank (2009) Iraq Poverty Assessment, Volume I

provided about 50.7 percent of all female employment in 2003 compared to about 17 percent of male employment.[4] This segment of the population suffers disproportionately from poverty and food insecurity, and according to the most recent poverty assessment, poverty rates are much higher in rural areas (39 per cent) than in urban areas (16 per cent), with the poorest of the poor living in rural areas.[5] This has continued to cause rural-to-urban migration. Partly as a result, there is a housing shortage and slums in urban areas (see the Housing and Light Construction Appendix).

Iraq's agriculture sector suffers from subsidized imports that are estimated to lower prices for imported goods by 20 percent, which makes it difficult for domestic production to be competitive. In terms of horticultural products, evidence suggests that these subsidized imports account for approximately 50 to 80 percent of the vegetables in the market in Iraq.[6] This largely explains why Iraq in 2009 and again in 2011 banned the importation of vegetables during peak season. The bans were only partly effective and have been suspended when local supply became too low to meet domestic demand. When they were suspended in 2009, a tariff was put in place. However, the tariff was never collected to our knowledge.

Of greater concern than unfair trade practices, however, are substantial disparities between Iraq and its regional neighbors in productivity, which further hampers Iraq competiveness. In 2008, although agriculture ranked as the second sector in terms of employment (23.5 percent), it only contributed 3.9 percent to GDP and its GDP/employee of 3.21 million ID was significantly below any other sector in the Iraq economy.

When productivity differences are included, imported goods of equivalent quality are 30 to 40 percent cheaper. **Table 20** shows, that Iraq's yields are about one-half to three-quarters of what its neighbors are able to obtain.

### Table 20: Regional Comparison of Product Yields in Kg/Ha (2009)

| Commodity | Iraq | Syria | | Iran | | Jordan | | Turkey | | Egypt | | United States | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yield | % | Yield | % | Yield | % | Yield | % | Yield | % | Yield | % |
| Wheat | 1,347 | 2,575 | 52% | 2,029 | 66% | 786 | 171% | 2,566 | 52% | 6,448 | 21% | 2,989 | 45% |
| Barley | 713 | 655 | 109% | 2,057 | 35% | 546 | 131% | 2,452 | 29% | 3,649 | 20% | 3,929 | 18% |
| Cucumbers/Gherkins | 9,600 | 12,721 | 75% | 19,346 | 50% | 81,324 | 12% | 28,917 | 33% | 18,750 | 51% | 15,204 | 63% |
| Eggplants | 18,687 | 20,000 | 93% | 28,651 | 65% | 39,133 | 48% | 29,720 | 63% | 25,000 | 75% | 34,146 | 55% |
| Legumes | 7,478 | 8,650 | | 17,114 | 44% | 9,421 | 79% | 7,046 | 106% | 11,178 | 67% | 3,138 | 238% |
| Onion | 2,945 | 16,347 | 18% | - | NA | 12,016 | 25% | 7,617 | 39% | - | NA | - | NA |
| Potatoes | 11,327 | 19,848 | 57% | 26,674 | 42% | 31,238 | 36% | 30,821 | 37% | 27,586 | 41% | 46,274 | 24% |
| Tomatoes | 17,605 | 65,085 | 27% | 36,002 | 49% | 52,743 | 33% | 33,103 | 53% | 40,000 | 44% | 80,608 | 22% |
| Dates | 4,609 | 4,886 | 94% | 6,657 | 69% | 5,804 | 79% | 3,591 | 128% | 33,750 | 14% | 8,511 | 54% |

**Note: Percentages are a ratio of Iraq's yield to the country in question.**

**Source: FAOSTAT**

Unfortunately, regional productivity differences have only grown worse in the last 10 years. **Table 21** shows the crop production index from 2001 through 2009 for Iraq compared to the Middle East and North Africa, Lower Middle Income Countries and the World. As of 2009, Iraq still had not returned to the production levels it had achieved prior to the US invasion. Drought affected production in 2008 and may have hampered production in 2009 as well.

[4] FAOSTATS (2011) Iraq Country Data.
[5] *Op.Cit.*
[6] Republic of Iraq, National Investment Council (2009) Investment Overview of Iraq

### Table 21: Crop Production Index (1999-2001=100)

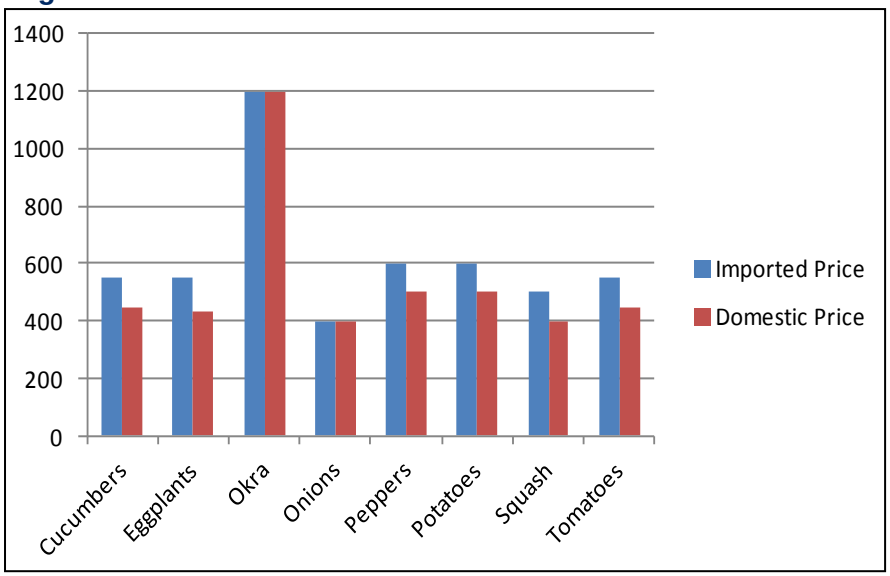
| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|---|
| **Iraq** | 108.0 | 129.0 | 103.0 | 101.0 | 106.0 | 105.0 | 100.0 | 81.0 | 83.0 |
| **MENA** | 101.1 | 109.5 | 115.2 | 117.7 | 120.6 | 126.7 | 122.7 | 116.2 | 125.2 |
| **LMI** | 102.9 | 104.7 | 108.8 | 113.8 | 117.4 | 120.8 | 124.4 | 129.5 | 128.0 |
| **World** | 101.7 | 101.9 | 105.1 | 111.9 | 113.4 | 114.6 | 117.9 | 122.5 | 122.2 |

**World Development Indicators**

This lower productivity has implications for rural poverty. In a recent report, the World Bank estimated that self-employed agricultural productivity is 40 percent lower than in all other economic sectors. While it found this to be true both for poor and non-poor workers, poor workers suffered more broadly from lower productivity.[7]

Iraq also lags regionally in the quality of crops that it produces. **Figure 17** illustrates how the price of domestic vegetable is generally 15 to 20 percent lower than that which imported vegetables command. Limited (and old) seed varieties and outdated growing techniques mean that Iraqi farmers face further problems in competing with imports and that they miss out on the price premium that comes with higher value goods.

### Figure 17: Price Differences between Imported and Domestically Produced Vegetables[8]




[7] World Bank, Confronting Poverty in Iraq, Annex 5. Employment, Income, and Agriculture 5.6 Economic Activities: How the Poor Earn Income, p. 388 (January 2010).

[8] Data drawn from the Anka service in 2009, which covered the 18 main wholesale markets in the country. Differentials may have changed since in 2010 Iraq introduced a ban on imports of fruit and vegetables, although the effectiveness of this ban is uncertain.

Greenhouse vegetable production offers numerous advantages over field crop cultivation as a means for meeting domestic food demand and for boosting rural income. There is currently enormous unmet domestic demand, given estimates that Iraq imports anywhere from 50 to 80 percent of the vegetables it consumes. It is an activity that has shown rapid growth in the last three years with the number of greenhouses in Iraq increasing from 5,000 in 2008 to approximately 15,000 greenhouses[9] in 2010. Nonetheless the potential for further expansion is very high. The USAID-*Inma* program estimates that the market's capacity to absorb greenhouse vegetable production without import substitution is about 50,000 greenhouses.

Greenhouses produce high yields of high value cash crops and generate a more continuous stream of revenue than do field crops. A well-managed greenhouse can achieve yields of 100 tons per hectare compared to 25 tons per hectare for field crops. With most areas in Iraq capable of producing two crop seasons per year, sales revenue can reach $10,000 per greenhouse meaning that the cost of constructing the greenhouse can be recouped in the first year. A typical greenhouse is 500 square meters and hence with proper spacing four greenhouses can be built on a donam of land or up to 16 per hectare. Greenhouses also reduce risk as farmers manage water and ventilation and can more easily protect against disease and pests.

With the introduction of newer seed varieties, farmers can not only provide better quality products but through greenhouse production they can extend growing seasons so that they can take advantage of seasonal price differences and can supply the off-season demand that currently is being largely filled by imports. Estimates place off-season vegetable demand at 600,000 to 800,000 MT a year.

In addition to increasing farmer income, greenhouse crops can provide necessary food supplements to ensure a more balanced diet for a healthy population. Greenhouse production also offers potential for expanding small value-adding activities (e.g., washing and packaging, processing) that could help in generating income for rural areas and create job opportunities. In fact, better processing capacity will provide an additional market for surplus produce (e.g., tomato paste).

The potential of greenhouse production in Iraq is demonstrated by its success elsewhere in the region. For example, in Saudi Arabia, greenhouses occupy only eight percent of total vegetable area but they produce more than 27 percent of the total vegetable production. Similarly in Kuwait, total area of vegetable production under greenhouse cultivation is 33 percent but its share in production quantity and value is 47 percent and 53 percent respectively. Yield of cucumber and tomato in Saudi Arabia under greenhouse cultivation is five and seven times higher compare to open field respectively.[10] In the other arid and semi-arid countries of the Middle East and the Mediterranean greenhouse production of high value crops ranging from onions to roses has accounted for an increasing proportion of agriculture production and income.

A major reason for the growth of greenhouse agriculture in the region is the significant decrease in use of water. For example, for drip irrigated greenhouse crops water consumption is reduced by a factor of 25 percent even when compared to drip irrigated open field crops. Given the advantage in yields, water use in greenhouses for food production is twice as efficient as for open field crops using drip irrigation. Where flood irrigation is used, the water saving is even greater.

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[9] The actual number of greenhouses is unknown with estimates going as high as 30,000.

[10] Ahmed T. Moustafa; Abdullah Al Shankiti and Arash. Economic Prospective of Protected Cultivation in Arabian Peninsula. Negation International Center for Agricultural Research in the Dry Areas (ICARDAArabian Peninsula Regional Program).http://www.saudigreenhouses.com/en/corp.aspx?id=3. Accessed on December 13, 2011.

The primary barrier to entry to greenhouses is the initial capital investment required, although the cost of construction has reportedly dropped from $5,000 to $3,200.[11] Greenhouses also require careful management of pests and weeds and require the installation and maintenance of drip irrigation equipment. Heating and cooling systems must be maintained and routinely serviced. Even a one-day loss of cooling, heating or water during a critical period can result in complete crop failure. Every 400 square meter of greenhouse space requires an estimated 25 to 30 hours of crop care and upkeep.[12]

In summary, greenhouse horticulture offers a low-risk investment opportunity with high returns for farmers through increasing yields, improving product quality, extending the growing season, and reducing risks. It can be pursued as a primary business activity or as a way to supplement other farming business activities. Given the prevalence of poverty in rural areas, it offers a good means for employment and for poverty alleviation. Finally, it constitutes a good way to overcome the substantial trade imbalances in agriculture and to increase Iraq's food security.

## II. Constraints to Necessary Economic Performance

Research on greenhouse horticulture production revealed several constraints to good economic performance. This research identified seven principal constraints:

- Water supply and quality
- Material input markets
- Technical knowledge
- Farm equipment
- Output markets
- Credit and insurance markets
- Investment climate

### *Water Supply and Quality*

Iraq has begun to experience increasing water shortages, particularly in the south. It also suffers from soil salinity with estimates that as much as 50 percent of cultivated land having salinity issues. Together these lower agricultural productivity and thus threaten rural livelihoods. Unfortunately, Iraq's current irrigation practices, with heavy use of flood irrigation, have exacerbated this problem as they involve overuse and have led to widespread salinization of farmland. Iraq's irrigation efficiency is only about 45 percent.

### *Material Input Markets*

The material input market suffers from restrictive regulation on new seeds. Registration of a new seed variety requires at least two years of field trials supervised by the Seed Testing and Certification Board, with an up-front registration fee ranging from $2000 to $3700. Seeds sold on the black market are of varying quality. The lack of new seed varieties hurts horticulture because farmers cannot produce vegetables at a level of quality comparable to imported produce, and they also cannot use varieties that extend the growing season, which would allow farmers to take advantage of seasonal price variations.

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[11] *Inma* Program Experts, December 9, 2011.

[12] College of Agriculture and Environmental Sciences, University of Georgia.Greenhouse Production.http://www.caes.uga.edu/publications/pubDetail.cfm?pk_id=6281 Accessed on December 13, 2011.

Iraq also suffers from a state monopoly on production and distribution of seeds and other inputs like fertilizer. The Ministry of Agriculture controls several state-owned enterprises that manufacture fertilizer and agricultural chemicals, and the Ministry of Industry and Minerals controls several companies that process agricultural products. Low productivity and poor coordination have led to shortages of fertilizers and other critical agricultural inputs. Some seeds are priced too highly to make crops competitive. Fertilizer is distributed free-of-charge by the MOA to middlemen who then sell it to favored farmers. The fertilizer in the market is often expensive. Because the MOA used to reach all farmers with fertilizer and other inputs, farmers often feel entitled to free or highly subsidized inputs.

***Technical Knowledge***

Iraq's agricultural extension system is thirty years behind in the techniques it teaches, and its pedagogical approach tends to be too theoretical with insufficient hands-on learning opportunities. This has led to productivity levels that place Iraq far behind in the region. There also tends to be quite a conservative farming culture, which at times makes the introduction of techniques difficult. Technical knowledge is important to develop as new seed varieties are introduced and for greenhouse horticulture, which both require precision agriculture in order for full productivity to be realized.

***Farm Equipment***

High quality farm equipment is largely unavailable or unaffordable. Equipment is substantially more expensive to purchase due to security and customs. Since farms are small, they often fail to achieve the necessary economies of scale which would make the acquisition of equipment feasible. Thus, either consolidation or the formation of cooperatives is required. The lack of a developed credit or leasing market also hampers investment into equipment for farmers. The erratic energy supply causes farmers to rely on expensive generators to run pumps, fans and other equipment. The relatively diminished use of equipment greatly impedes Iraq's productivity.

***Output Markets***

Underdeveloped output markets prevent farmers from fully realizing revenue potential through taking advantage of seasonal and regional variations in supply and demand. This means that productivity gains can lead to market gluts which drastically lower prices. Causes for this include lack of cold chain capacity, poor transport systems, underdeveloped intraregional trade, underdeveloped market information systems, and inadequate processing capacity.

***Credit and Insurance Markets***

The lack of credit and insurance inhibits investment in equipment as well as material inputs. Last year a large storm destroyed most of the country's greenhouses. This critically affects the development of greenhouse horticulture, which requires upfront investments in the greenhouse itself as well as in various kinds of equipment (pumps, ventilators, irrigation systems, etc.). The lack of a working insurance market creates an aversion to risk, which inhibits investment.

Credit markets have been distorted by a state monopoly on agriculture credit, which has hampered the development of private credit markets. At times, this has involved unsustainable low or no interest rate loans as well as low payback expectations. At other times, state banks have engaged in credit rationing. Private Banks tend to be risk averse due to poor risk analysis capacity and to a legal environment that makes it difficult to claim loan collateral. This lead to overcollateralization of loans.

***Investment Climate***

Agriculture is hindered by a poor investment climate. As mentioned earlier, heavily subsidized imports make it difficult for farmers to compete. Also, the current PDS system has

created captive demand for particular products and has crowded out investment in dairy, vegetable oil, and pulse production. The current land tenure system, where sharecropping is widespread, also inhibits long-term investments, which would enhance productivity.[13] About one third of agricultural land is privately owned, primarily by the sheiks. The remainder is owned by the government which leases or grants land to farmers.

## III. Diagnostics

The diagnostic phase of our work narrowed the field of constraints under consideration. The Tijara team used its research to identify which, of the above impediments, seem to constitute the most important (significant) constraints on improved performance of the Greenhouse Horticulture activity. The team then used its research and analysis to identify the plausible causes of these important constraints. From that analysis it was possible to derive promising development initiatives to address the most important current needs (**Table 18**): (1) improve irrigation practices; (2) increase access to credit and insurance; (3) develop processing and cold chain capacity; (4) enhance the knowledge among farmers of best agricultural practices; and (5) improve the supply and quality of inputs.

As with other economic activities, the research team assigned scores to each of the possible development initiatives that would address the causes of current dysfunction.

First, each of these initiatives was ranked in terms of their urgency. Initiatives deemed to be *highly urgent* were assigned a score of 5, and initiatives of *intermediate urgency* were assigned a score of 3.

Next, these development initiatives were assessed in terms of their contribution to other economic activities in Iraq. Rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 22.**

The individual initiative value (IV) scores were derived as follows. Notice that an initiative to rectify current problems credit access was considered to be highly urgent (5), and to have high additionality (5). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 5.0 derived as: 5 x 0.6 + 5 x 0.4 = 5.0.[14] Repeating this for the other causes of dysfunction yields five initiative values (or scores). These five scores were then averaged to obtain a Program Value Score (PVS) of 3.64.

**Table 22: Promising Development Initiatives in Greenhouse Horticulture**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Irrigation Practices | 5 | 3 | 4.2 | |
| Access to Credit | 5 | 5 | 5.0 | **3.64** |
| Processing and Cold Chain Capacity | 3 | 1 | 2.2 | |

[13] Meeting with Jerry Turnbull, Chief of Party, USAID-*Inma* Project, October 13, 2011.
[14] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Agricultural Technical Knowledge | 5 | 1 | 3.4 | |
| Input Supply and Quality | 5 | 1 | 3.4 | |

## IV. Program Implications

The results listed in **Table 22** suggest that the most promising benefits (payoff) to the Greenhouse Horticulture activity are likely to come from: (1) improving irrigation practices; (2) expanding credit access; (3) improving agriculture technical knowledge; and (4) improving input supply and quality. Possible programs for each of these will be considered in what follows.

Iraq's water sector is considered more fully in the Annex devoted to that economic activity. For this reason, we focus here on water practices that are specific to agriculture, which may help improve water supply and quality. Given Iraq's inefficient use of water in agriculture, programs to expand drip and spray irrigation techniques will substantially decrease water use and decrease salinization. Given the high cost of investment for such investments, focus on greenhouse horticulture offers the greatest potential for initial success. Scaling up modern irrigation techniques in this economic activity, however, will engender salutary knowledge spillovers and will create supply networks that will allow for these techniques to be applied more broadly in agriculture over time.

Iraq's poor credit and insurance markets constitute a general constraint to the economy, so development initiatives should be directed both to system-wide problems as well as to problems specific to agriculture finance. Broadly, policies and enforcement mechanisms need to be improved for loan securities, so that banks do not require excessive collateral or embed the additional risk in higher interest rates, both of which inhibit investment. Distortionary practices at state banks (sub-market interest rates, lower payback expectations, etc.) need to be phased out to allow greater space for private banks to operate.

Private sector financing institutions need to be strengthened in their risk analysis capacity, particularly for agriculture finance. In addition to bank lending, supplier credit systems need to be developed and expanded, which will have the additional effect of strengthening distribution systems. Also, equipment leasing programs need to be developed, which will help respond to the constraint in farm equipment that was described earlier. Finally, agriculture insurance programs need to be developed that will allow farmers who invest in greenhouse structures and equipment to be better protected from potential losses. This will stimulate investment and help overcome the widespread conservatism in the farming culture that has slowed the adoption of new techniques.

In terms of technical knowledge, programs should focus on both the current extension system (particularly at governorate and sub-governorate level) as well as on developing and expanding private sector service centers, which have proven effective. Farmers lack basic information about plant varieties, planting (seed) densities, pests, harvesting schedules, optimal temperature and moisture conditions. Operationally, they lack capacity in financial management, budgeting, price forecasting, storage, transportation and handling, distribution, and marketing. In addition to strengthening content, programs need to use pedagogical approaches which are maximally practical such as hands-on training and demonstration farms.

The chief need in terms of input supply is for Iraq to update and expand its seed varieties. Initiatives need to be directed toward creating a more efficient means for new seeds to be approved. This will require regulatory reform as well as strengthened capacity at the MOA. An intermediate step may be for the MOA to allow any seeds that have been approved by USDA or WHO/OECD. The seed distribution market also needs to be liberalized so that SOEs do not continue to use their monopoly positions in distortionary ways.

Iraq's fertilizer market also needs assistance. The distribution systems need to be liberalized to ensure long-term sustainability. There is also great potential for Iraq to revitalize its domestic fertilizer production, which could lower the cost of fertilizer. Iraq has abundant phosphates and if initiatives to better capture natural gas are successful (see Oil and Gas Appendix), domestic production would have the necessary resources available.

These program areas offer the potential to greatly strengthen Iraq's productivity, the quality of produce, and the market structure, which together will generate increased farm incomes, expand employment, strengthen food security, and improve Iraq's trade balance.

# A.2 OIL AND GAS

## I. Importance and Assessment

The oil and gas sector has dominated the Iraqi economy for more than 50 years, with oil production alone accounting for 74 percent of the GDP in 2001.[15] While that percentage has decreased in recent years to approximately 61 percent of GDP in 2010, oil production will likely remain the single largest contributor to GDP for decades to come. It will also remain the predominant provider of foreign exchange earnings and source of government revenues. In 2011 oil exports are expected to generate more than about 98 percent of export earnings and 90 percent of government revenues.

Natural gas produced as a by-product of oil extraction (associated gas) has been largely untapped, with 60 percent or more of this resource being flared, and much of the remainder re-injected into the ground for enhanced oil recovery.[16] The current practice of flaring natural gas represents a significant loss of revenue and damages the environment. Most oil production is exported as crude oil and is not being transformed into high-valued refined products. Current processing of crude oil into gasoline, kerosene, and diesel oil does not meet internal demand, and production facilities are inefficient. Hence, while Iraq exports most of its crude oil production, it imports about 30 percent of its gasoline needs, and 17 percent of its LPG needs.

***Petroleum***

Crude oil is the single most valuable commodity produced in Iraq and is the country's primary natural resource. Other than natural gas, phosphates and sulfur, Iraq has few other mineral resources of commercial significance.

[15] Energy and Geopolitical Risk, Middle East Economic Survey, Vol. 1, No. 10, November 2010
[16] Iraq National Investment Commission, Oil and Gas Investment Overview, 2011

Proven oil reserves have recently been revised upward to an estimated 143 billion barrels, moving Iraq into third on the list of countries with the largest reserves after Saudi Arabia and Canada.[17] The oil is generally high grade— light and with average sulfur content.[18] Iraqi oil is also relatively cheap to extract with estimates of total production costs of $4 to $6 per barrel. Operating and capital costs in Algeria, Libya, Oman, and Qatar are estimated at between $10 and $15 per barrel.[19] For countries such as Norway and Brazil where oil resources are concentrated offshore, extraction costs are significantly higher. It should be noted that for some of the new fields in the south, which will require large volumes of injected water within two to three years after inception of operations, production costs will be somewhat higher than those cited for earlier fields. Iraq's geology remains largely under-investigated and there is potential for the proven reserves to be significantly revised upward. Furthermore, the revised proven estimates assume an average recovery factor of only 28 percent. Industry experts estimate that a 40 to 45 percent recovery rate should be achievable, with full pressure maintenance, and this would boost the proven reserves to about 200 billion barrels.[20]

The majority of known oil reserves in Iraq form a belt that runs along the eastern edge of the country. Iraq has 9 fields that are considered super giants (over 5 billion bbls) as well as 22 known giant fields (over 1 billion bbls). A cluster of super-giant fields in southeastern Iraq forms the largest known concentration of such fields in the world, and accounts for 70 to 80 percent of the country's proven oil reserves. An estimated 20 percent of oil reserves are in the north of Iraq near Kirkuk, Mosul, and Khanaqin.[21]

About two-thirds of Iraq's oil production comes from the southern fields, with the remainder from the north-central fields near Kirkuk. Most Iraqi oil production comes from just three giant fields: North and South Rumaila in southern Iraq, and Kirkuk. Continued maintenance of output, and development of new oil fields in the south, will require huge infusions of injected water. Iraq is planning a Common Seawater Supply Facility (CSSF) that would process 15 mbd of raw seawater to provide 12 mbd of treated water to be injected into the fields in southern Iraq.[22]

Oil production has slowly rebounded from its low point in 2003 of 1.3 million barrels per day (mbd) to an estimated 2.4 mbd in 2010; recent reports indicate that daily production levels have reached as high as 2.8 mbd during July 2011.[23]If verified and sustained, mid-summer 2011 monthly production will have reached levels not attained since 1989 when production almost passed the 3 mbd threshold. The 2.8 mbd production figure would also mean that the country has reached pre-war production capacity. The Iraq Oil Ministry has estimated a potential of 13.2 mbd output from known reserves.[24]To put this figure in context, Iraq's peak oil production occurred in 1979, when output reached 3.56 mbd. [25]

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[17] Cordesman, Loi, Mausner. Iraq's Coming National Challenges: Developing the Petroleum Sector, Center for Strategic and International Studies; January 5, 2011.

[18] Anon. Iraqi Oil Industry IAS Group Washington DC. March 2011http://iasworldtrade.com/attachments/071_Iraqi%20Oil%20industry%20Energy%20Memo%20Final.pdf Accessed on November 7, 2011.

[19] Reuters Press Factbox-Oil production cost estimates by country. July 28, 2009. http://www.reuters.com/article/2009/07/28/oil-cost-factbox-idUSLS12407420090728 Accessed on November 13, 2011

[20] Wells Expanding Iraq's Oil Production: Issues and Impediments Touch Briefings 2011. http://www.touchoilandgas.com/ebooks/A1ro89/eandpvol9iss1/resources/26.htm

[21] Energy Information Administration. Iraq Country Assessment, September 2011

[22] Husari Watering the Oil Fields. Iraq Oil Forum July 1, 2010

[23] The year 2003 was the lowest production year since the second gulf war commenced; it should be noted that in 1991, crude oil production dropped to 305 thousand barrels per day.

[24] Energy Information Administration. Iraq Country Assessment, September 2011.

[25] National Development Plan for the Year 2010-2014. Republic of Iraq Ministry of Planning. 2010

In terms of future production, the Iraqi government has signed contracts with the major international oil companies (IOCs) that are structured to increase oil production output to 12.5 mbd by 2020. This greatly exceeds the most recent forecasts by the International Energy Agency which forecast production to reach just 5.4 mbd in 2020.[26] BP estimated Iraqi oil production at only 4.5 mbd in 2020.[27]

As oil production has increased so have exports, which have risen from about 860,000 barrels per day in 2003 to about 1.8 mbd in 2009. Export levels for 2010 were slightly lower than in2009, although revenues increased due to higher prices. The country exported $52.2 billion worth of oil in 2010, compared to $41.3 billion in 2009 with an average price per barrel for 2010 reaching $75.67.[28] The most recent statistics indicate that Iraq's oil exports and revenue have returned to their upward trajectory. In 2011, exports averaged almost 2.2 mbd and total revenues reached $82 billion.

Iraq has two main export terminals located on the Persian Gulf. The Basrah Terminal is the largest terminal with four berths capable of handling very large crude carriers. Situated 12 kilometers east is the Khor Al-Amiya Terminal. The current export capacity of these terminals is about 1.8 mbd.[29] Iraq also has one operational major crude oil export pipeline which carries oil from northern Iraq to the Turkish Mediterranean port of Ceyhan. This pipeline has a capacity of 1.6 mbd, but Iraq has signed an agreement with Turkey to upgrade the capacity by 1 mbd.[30] There are two other pipelines that have been inoperable for some time. The Iraq-Syria-Lebanon Pipeline has been closed since 2003, and efforts to repair the 700,000 bd pipeline have yet to result in agreements. A 1.65 mbd pipeline to Saudi Arabia has been closed since 1991 and the Iraq government has not indicated that it intends to reopen it. A small amount of oil is carried overland by tanker trucks to Jordan.

In addition, Iraq has a reversible North-South Strategic Pipeline with a capacity of transporting 1.4 mbd. The pipeline can take oil from the north and move it to the south for refining or exports, while allowing oil from the south to be moved to the central and northern regions. The current estimated effective capacity is about 200,000bd.

According to the 2011 BP Statistical Energy Survey,[31] Iraq had a 2010 refinery capacity of 856,000 barrels a day; about0.9% of the world total. Most production is carried out at 3 of the Country's 10 refineries. This capacity compares to a refinery capacity of 644,000 barrels per day at the end of 2003, and a capacity of 804,000 barrels a day during 2009. Actual throughput however was much lower resulting in Iraq importing gasoline and LPG to meet its 600,000 bd internal demand.

[26] International Energy Agency. World Energy Outlook Chapter 3 Oil Markets Outlook. November 2011
[27] British Petroleum BP Energy Outlook 2030 January 2011
[28] Iraqi Business News, January 27, 2011 http://www.iraq-businessnews.com/2011/01/27/iraq-oil-exports-2010-volume-down-revenue-up/
[29] Jareer Elasset. Al. Iraqi Oil Potential and Implications for Global Oil Markets and OPEC Politics. Baker Institute for Public Policy, July 2011
[30] Energy Information Administration. Iraq Country Assessment, September 2011.
[31] BP Statistical Review of Energy June 2001

***Natural Gas***

As noted above, most of the natural gas extracted is flared at the production site. Additional produced gas is re-injected for enhanced oil recovery and for power generation required in oilfield operations. The estimated value of flared gas is $5 million per day or about $1.8 billion annually. However, this figure does not take into account the opportunity costs of using the gas to produce fertilizer and other petrochemicals. Residents near the production facilities also suffer from health problems due to exposure to contaminated air.[32]Iraqi natural gas reserves are estimated at 112 trillion cubic feet, which represents about 1.7 percent of the world's total known reserves and places the country 12th on the list of countries with the largest gas reserves.

Iraq's natural gas is concentrated in the south, most of it as associated gas. About 70 percent of the reserves are situated in Basrah governorate. Two-thirds of Iraq's natural gas resources are associated with oil fields including, Kirkuk, as well as the southern Nahr (Bin) Umar, Majnoon, Halfaya, Nassiriya, the Rumaila fields, West Qurna, and Zubair. Less than 20 percent of known gas reserves are non-associated[33]; around 10 percent is in salt domes. The majority of non-associated reserves are concentrated in several fields in the North including: Ajil, Bai Hassan, Jambur, Chemchemal, KorMor, Khashem al-Ahmar, and al-Mansuriyah.[34]

Iraqi natural gas production rose from to 81 billion cubic feet (Bcf) in 2003 to 522 Bcf in 2008. Some is used as fuel for power generation, and some is re-injected to enhance oil recovery. As noted earlier about 60 percent of the production is flared due to a lack of sufficient infrastructure to utilize it for consumption and export. As of late 2010, Iraq's five natural gas processing plants, which can process over 773 billion cubic feet per year, sat mostly idle.

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[32] Iraq Oil Report Wasted money, global concerns over Iraq's gas flaring. November 1, 2011. http://www.iraqoilreport.com/energy/natural-gas/wasted-money-global-concern-over-iraqs-persistent-gas-flaring-6442/?utm_source=Email Update Subscribers Accessed on November 2, 2011

[33] Non associated gas fields occur when the gas is not found collocated with crude oil.

[34] Energy Information Administration. Iraq Country Report, September 2010

The non-associated gas fields reportedly slated for priority development are mostly in the northern governorates near Kirkuk, including al-Mansuriyah and the nearby Khashem al-Ahmar and JariaPika, KorMor, Akkas, Chemchemal and Siba.

Iraq's 10-year strategic plan for 2008–2017 set a goal of increasing natural gas production to 2.5 trillion cubic feet per year, and to end the flaring of natural gas. As part of this plan, Iraq planned three licensing rounds beginning on June 30, 2008. Negotiations have been slow and little progress was made until November 2011, when Shell and Mitsubishi signed a $17 billion agreement with Iraq to collect and process more than 2 billion cubic feet per day of natural gas at the Rumallah, Zubair, and West Quma fields.

The Ministry of Oil, through its Iraq National Oil Company (INOC), has central control over oil and gas production and development in all but the Kurdish territory through its five operating entities: the North Oil Company (NOC), the North Gas Company (NGC), the South Oil Company (SOC), the South Gas Company (SGC), and the Missan Oil Company (MOC), which was split off from the South Oil Company in 2008. Oil refining is also government controlled, but under the Iraq Oil Refineries Administration.

Before 2003, foreign companies were precluded from investing in Iraq's oil sector. The country has since reversed that policy and has opened up old and new fields to foreign companies to obtain needed investment and technology. Since conducting its first auction in 2009, Iraq has signed 12 contracts with oil majors, including six for the largest fields.[35] Some of the oil services contracts are for further development of currently productive fields, others to tap mostly unused sites. It must be emphasized that the contracts are service contracts and that the extracted oil remains under ownership of the Iraq National Oil Company or its regional subsidiaries.[36] In fact, Iraq has been able to negotiate conditions far more favorable than in the past with large array of requirements including:

- Management of projects should be undertaken in partnership with Iraqi state-owned enterprises;
- Iraqi companies are given first preference in subcontracting awards. Any expertise that cannot be provided by Iraqi companies would then be sought from foreign firms;
- The burning of natural gas during the extraction process is forbidden, and should instead be delivered to Iraq free of charge;
- Local environment and infrastructure should be protected from harm;
- Oil companies have paid substantial signing-on fees to guarantee their commitment to reaching the agreed targets. BP, for example, has paid $500 million.

Iraq's Minister of Oil, Dr. Hussein Al-Shahristani, stated that the recent oil bidding rounds had set a new standard in transparency and competitiveness for awarding oil contracts, adding that the success of the second bidding round was 'unprecedented' worldwide.[37]

The Iraqi government has not passed the hydrocarbon law, which will establish the legal basis for future oil and gas exploration and production. According to recently circulated drafts of the Law, its most important provisions are the explicit delegation of authority for exploration, development, and production contracts to a Federal Oil and Gas Council chaired by a Deputy Prime Minister and composed of ministers, the Governor of the Central Bank,

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[35] Iraq has conducted three rounds of auctions since 2009; a fourth round is planned for the end of 2011.

[36] It should be noted that contracts between the KRG and international oil companies include production sharing agreements. The Iraqi National Government does not recognize these contracts and forbids IOC with such agreements from participating in auctions for new fields in southern Iraq.

[37] Iraq Institute for Economic Reform Iraq Sets New Standard for Oil Contracting. February 1, 2010. http://www.iier.org/i/uploadedfiles/publication/real/1300679727_010210NewStandardsAliMawlawi4C.pdf Accessed on November 9, 2011

"producing" regional and provincial officials, and experts from inside and outside the Ministry of Oil. The authority to sign service contracts, such as the ones awarded in 2009, is delegated to the Minister of Oil. This would presumably speed up the contracting process. The Law also implicitly allows for more forms of contracts, such as production-sharing agreements.

Also pending is the revenue-sharing law, which will further define the division of revenue between the federal government, the Kurdish Region, and the governorates. The legal framework for oil and gas rests on the Constitution of 2005. Iraq's oil and gas wealth is "owned by all the people of Iraq in all the regions and governorates."[38] Management and development planning for oil and gas is shared between the federal government and the "producing regions and governorates," while wealth is to be shared "in proportion to the population distribution in all parts of the country [with some allowances for "damaged regions"] . . . this shall be regulated by law." [39]

Although the failure to pass these laws appears to have slowed but not significantly stalled the reentry of international oil companies into Iraq, the lack of resolution on these legal issues could soon become disruptive to future contracting and lead to rescissions of existing contracts. Furthermore, the current situation has created tension between the governorates and the national government overall control of resources. This is especially true for the KRG, which has negotiated production agreements with oil companies, directly defying national government policies that permit only service contracts. In fact, the national government does not consider the contracts with the KRG to be legal.

The country has also moved toward attracting private investment in the refining sector. In June 2010, the Iraq Ministry of Oil announced a new set of incentives for constructing new refineries that would permit private ownership and public-private partnerships. However, the level of new capital investment has been minor and insufficient to upgrade the industry. Finally, Iraq has not yet finalized how oil revenues will be shared between the Kurdish Regional Government and the Iraqi National Government, the right to export, and resolution of the disputed territory, including Kirkuk.

## II. Constraints to Necessary Economic Performance

The team's research and meetings revealed a number of specific constraints that prevent the effective functioning of the oil and gas activity. Primary among these impediments is a much-outdated and inadequate refining capacity. Chiefly, the antiquated facilities generate low-value products rather than high-value products per barrel of oil produced. Hence, the proportion of heavy fuel produced is much higher for Iraqi refineries than for more modern ones. There is also insufficient overall refining capacity. One result of this situation is that it is necessary to import gasoline and LPG. Furthermore, the heavy fuel cannot be further refined into distillates and it is ultimately used in some of the country's gas turbines to generate electricity. This is not only inefficient but damages the turbines.

Part of the problem is that refining is under the control of of state-owned companies of the Ministry of Oil. Historically there has been insufficient investment to upgrade or expand the capacity of the refining sector. As demand has increased for the full spectrum of petroleum products, the Ministry of Oil has failed to generate sufficient supply of the right mix of products. The GOI has recently taken steps to elicit more private investment in this activity

[38] Article 111, Constitution of 2005.
[39] Article 112, Constitution of 2005.

but so far little new investment has resulted. Inefficient retailing of products results in extremely poor service to all end users of petroleum products—households, the transport sector, and farmers. Products such as kerosene are often sold in an unsafe manner, and the retailing of gasoline and diesel products is carried out with extremely poor service. As documented in the report on Freight and Logistics, poor retailing of diesel products results in truckers using black-market suppliers in order to expedite their journey. The poor performance of Oil Products Distribution Companies (OPDC) is another reason why the government suffers a credibility problem.

The retailing of petroleum products such as gasoline is carried out almost exclusively by OPDC. Small private enterprises are undercapitalized and provide poor service. Overall there is very little competition for this business and the SOE has no incentive to improve services. There is also no wholesaler market. Quality control and regulation is nonexistent in regards to the sales of kerosene and related products.

The GOI has recently signed technical-service agreements with international oil companies to help enhance oil recovery at existing oil fields, and to develop new oil fields in the south of the country. These contracts are highly complex cost-plus arrangements. Without strong expertise it will be difficult for the MoO to audit the international oil companies' cost submissions. Even if the MoO decides to outsource auditing functions to a large accounting firm, capacity building in auditing, accounting, and budgeting functions will serve to create a more efficient and transparent ministry. Strong auditing and accounting capacity would also give the Iraq government and population greater confidence that oil revenues are being properly accounted for.

The MoO does not have the depth and range of skills and experience to perform high quality audits of the oil service contracts. As more contracts commence, and as more revenue is generated, the MoO will need to increase its ability to oversee these contracts. Also the necessity for better budgeting and overall accounting expertise will increase as well. In the absence of these skills, the GOI might fail to extract its full share of revenues of future oil production carried out by the international oil companies.

## III. Diagnostics

The foregoing list of problems and challenges represents a serious hurdle for the enhanced performance of oil and gas activities in Iraq. In an effort to distill a set of tractable impediments, and to determine the likely causes of those constraints, the team reviewed the relevant literature, studied numerous consultants' reports, donor assessments, Iraqi planning documents, and held discussions with Iraqi experts, including the former oil minister and several Iraqi consultants with decades of experience with the Oil Ministry,

Those efforts produced a roster of constraints and a set of likely causes of those important impediments. Working from that causal model allowed the team to identify four feasible development initiatives.[40] These are: (1) enhance the management and accountability capacity within the government ministries; (2) improve the retailing of petroleum products; (3) institutional improvements to facilitate improved refining capacity; and (4) improvements in the legal frame work of oil and gas development and the revenue sharing of its proceeds.

[40] It bears mention that there is so much private-sector investment concerning oil and gas, especially in the development of new oil fields and natural gas capture infrastructure that our proposed initiatives focus on problems that the private sector (the IOCs) has yet to invest in or which will require public sector reform to stimulate future private sector investment.

The detailed workshops with Iraqi experts were devoted to developing a ranking of the important impediments and the reasons for their persistence. Experts were asked to assign scores (or weights) to each of the possible development initiatives that would address the causes of current dysfunction. Workshop participants identified two initiatives that were considered to be highly urgent, and an additional two initiatives that were deemed to be of intermediate urgency. Initiatives deemed to be highly urgent were assigned a score of 5, and initiatives of intermediate urgency were assigned a score of 3.

These 4 development initiatives were judged in terms of their contribution to other economic activities in Iraq. It is important to assess the possible contribution to other economic activities from correcting this specific dysfunction in freight and logistics. This attribute of rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 23**.

The Table lists the four specific development initiatives for oil and gas, each with a corresponding "initiative value" (IV). These individual IV scores were derived as follows. For example, an initiative to rectify current flaws in the retailing of oil and gas was considered by the experts to be highly urgent (5), and to have medium additionality (3). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 4.2 derived as: 5 x 0.6 + 5 x 0.4 = 5.0.[41] Repeating this for the other causes of dysfunction yields four initiative values (or scores). These four scores were then averaged to obtain a Program Value Score (PVS) of 3.80. These PVSs for the other economic activities could then be compared to assign priorities to development programs across the nine economic activities under consideration.

**Table 23: Promising Development Initiatives to Improve Oil and Gas**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Ministry Management and Accountability | 5 | 1 | 3.4 | **3.80** |
| Retailing of Petroleum Products | 5 | 5 | 5 | |
| Refining capacity | 3 | 5 | 3.8 | |
| Legal Framework | 3 | 3 | 3.0 | |

## IV. Program Implications

The production of oil and gas is clearly the most important contributor to the Iraqi economy. It is the key source of revenue for the operation of the national government and accounts for a large share of the GDP. However, the ability for this petroleum resource to benefit the country is impaired by poor production (extraction), limited pipelines, and restricted capacity at export terminals. Iraq also recovers little of the natural gas associated with oil recovery, and the refining and petroleum product retailing sectors are characterized by outdated and inefficient public sector management. Finally there are a host of legal and political issues that—while not having a major short-term impact on production development—nonetheless

[41] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

pose major risks not just to the sector but to the country as a whole. Overall, slowing down oil and gas sector development directly constrains growth in other key sectors including the power, transportation, agriculture sectors and indirectly impedes growth of the entire economy.

The current GOI policy to develop the oil and gas sector encompasses some key reforms that are consistent with accepted principles of market reform. This includes the outsourcing of production to the major International Oil Companies through the execution of technical service contracts. However, it appears that its current strategy is to retain a dominant role for the public sector, especially in areas of oil transport (pipelines), refining, and retailing of petroleum products. Even in the production sector, the outsourcing of production activities to private sector companies is accompanied by the rigid control of the Ministry of Oil. The Ministry's control is often heavy handed and not always conducive to rapid development and investment of its private sector counterparts.

The development initiatives identified in **Table 23**, if accompanied by appropriate private sector investments and technical support could provide for important improvements of oil and gas. The Oil Ministry has taken some small steps to encourage private sector investment in the refinery sector but these attempts have not elicited large scale investment. Identifying more innovative approaches to attract private development of refineries along with reassessing how SOMO manages the existing production facilities could result in increased output, although such an outcome would by no means be guaranteed. One reason is that oil refining is a low margin activity that requires very large upfront capital investments. In many developed countries where refineries face stringent regulations private investment has been quite week for many years. Hence, it is likely GOI would face difficult challenges in attracting significant private participation in this activity without a robust set of incentives.

In regards to refined petroleum products, the GOI has not in the past attempted to privatize this activity and doing so would represent a major change in policy. However, a fully privatized market or one that is a hybrid of government owned service stations competing with private retailers--an approach that would introduce some level of competition--could potentially lead to better services in this activity. Developing a new marketing system would require buy-in at the highest levels of government and require the development of a short term transition strategy to allow for an orderly development of a competitive private sector in the wholesaling and retailing of petroleum products. In the absence of political will, technical assistance in this area would probably have little effect.

# A.3 ELECTRICITY

## I. Importance and Assessment

The rehabilitation and expansion of the electricity system is deemed essential to the growth and development of the Iraqi economy. Inadequate and unreliable electricity supply raises the cost of conducting business, deters investment, hinders job creation, and harms the health and well-being of Iraqi citizens, particularly the most vulnerable populations. The importance of electricity to Iraq's future development is indicated by the fact that the oil and gas industry, the primary engine of Iraq's economic growth alone consumes 10 percent of the country's power production and will require significantly more power as it expands its own output.[88] Oil production facilities, like so much of Iraq's industrial sector, rely mostly on their own power generation at high cost to both the economy and the environment.

### Background

The electricity system, which has historically received inadequate investment to maintain generation, transmission, and distribution infrastructure, was significantly degraded during the Gulf War and by the U.S. invasion in 2003. Installed capacity in 1990 was 9,295MW with 120 power generating units. By the end of 2003, installed capacity was reduced to about 3,300MW.[89] Operational capacity was even less. Large-scale war damage was also incurred by the transmission infrastructure with the destruction of many towers and substations throughout the country. The distribution system is also beset with operational problems stemming from war damage, prolonged neglect, post-war looting, and a proliferation of illegal hookups. The communications and control systems for monitoring the grid are also inadequate.

During the past 8 years, Iraq has been able to rebuild power production capacity such that installed capacity by the end of 2010, reached 15,070MW, with electricity being generated at 51 stations encompassing a total of 254 units.[90] However, due to fuel constraints, aging facilities, and other operational problems, maximum output was only about 8,000MW or around 53 percent of installed capacity. According to the latest SIGIR Report (Special Inspector General for Iraq Reconstruction), however, average output during July 2011, normally the month with the highest demand, was just 7,316 MW or 48.5 percent of installed capacity.[91] Iraq has supplemented domestic production with electricity imports from Turkey, Syria, and Iran. In 2009, for example, imports accounted for 10.8 percent of Iraq's total supply or about 5.6 million MWh out of 51.8 million MWh generated.[92]

As shown in **Table 24**, domestic electricity is generated using a mix of plant types.

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[88] US Energy Information Administration. Iraq Country Analysis. 2010.
[89] United Nations /World Bank Joint Needs Assessment, Iraq. October 2003.
[90] The State of the Iraqi Electricity Sector.MEED Research.com. February 2011. http://www.meed.com/Journals/1/Files/2011/2/6/Sample%20Pages.pdf . Accessed on October 30, 2011
[91] Special Inspector General for Iraq Reconstruction Quarterly Report October 2011
[92] The State of the Iraqi Electricity Sector.MEED Research.com. February 2011. http://www.meed.com/Journals/1/Files/2011/2/6/Sample%20Pages.pdf Accessed on October 30, 2011

**Table 24: Electricity Installed Capacity by Plant Type****

| Plant Type | Number | Number of Units | Installed Capacity (MW) |
|---|---|---|---|
| Steam | 8 | 32 | 5,015 |
| Gas | 30 | 157 | 7,074 |
| Hydro | 10 | 36 | 2,513 |
| Diesel | 3 | 29 | 468 |
| Total | 51 | 254 | 15,070 |

** Does not include privately produced power
Source: MEED Research 2011

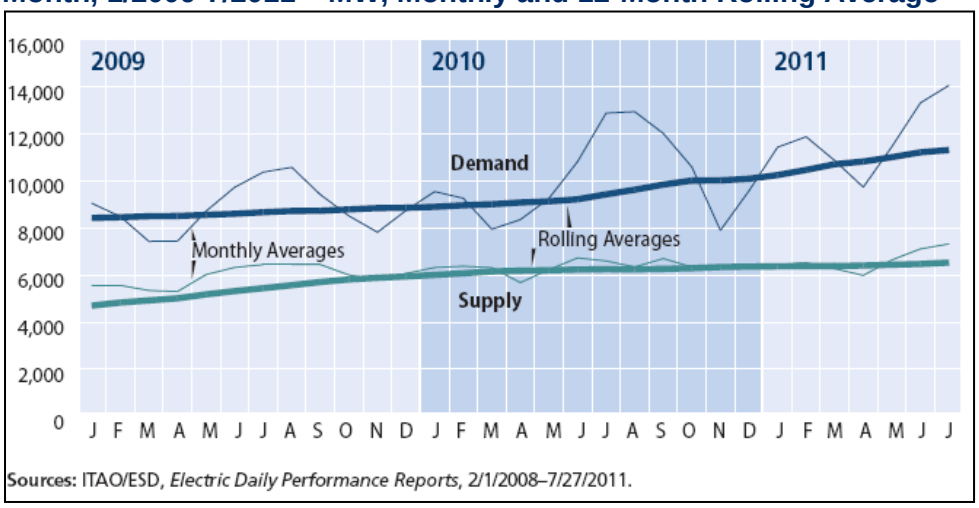
The actual contribution of these power sources has varied somewhat over recent years due to availability of fuel source and downtime needed for repair of aging plants. Hydroelectric power concentrated in the north supplied 6 percent of electricity in 2009 and 9 percent in 2010. Steam generation (using crude or heavy fuel oil) supplied 32 percent of the power in 2009 and 27 percent in 2010.[93] Damage to gas processing plants has resulted in fuel shortages to gas turbine plants. Many of the gas plants have substituted heavy fuel oil or crude oil for natural gas, which not only drastically reduces output but cause other operational problems including increased wear on equipment.[94]

Despite the recent efforts, Iraq's electricity system has not been able to keep pace with the rapid growth in demand that has occurred since 2003. The robust growth in demand is attributable to high population growth, improvement in household incomes, and the recovery of businesses idled during the war. Exacerbating the problem was the large surge in electricity usage that occurred after the sanctions were rescinded and Iraqi households satisfied their pent-up demand for a whole array of power intensive appliances such as air conditioners and refrigerators. Furthermore, according to Dr. Bayati of the Ministry of Electricity (MoE), income disparities have accelerated the migration of rural populations to urban centers where their use of energy has pushed electricity usage past forecasted levels.[95]

A Parsons Brinckerhoff study estimated average annual peak demand for 2009 was about 13,100 MW. However, according to the latest SIGIR Report, peak demand during July 2011 climbed to 14,038 MW, which would indicate a 6,722 MW shortfall. **Figure 18** taken from the SIGIR October 2011 Quarterly Report to Congress graphs the continued gap between supply and demand with particularly large shortfalls occurring during the summer months.

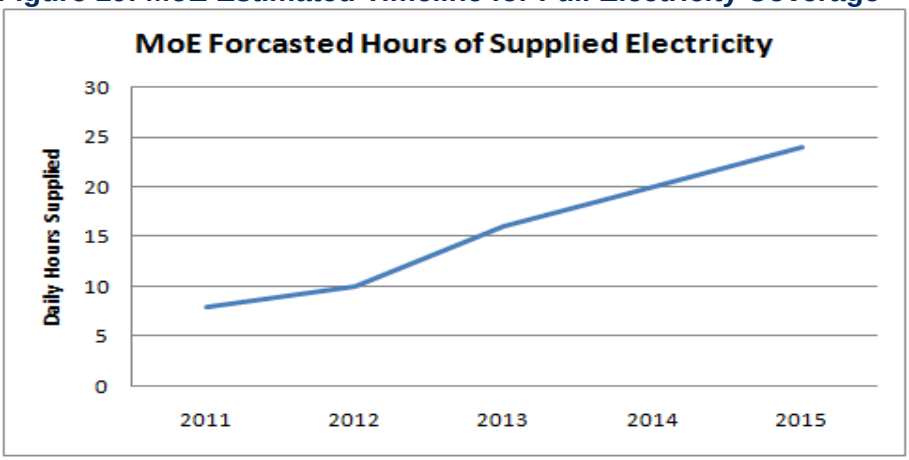
[93] The State of the Iraqi Electricity Sector.MEED Research.com. February 2011.
[94] Reda et.al. Iraq Electrical Power Infrastructure- Past, Present and Future Developments and Expectations. PSCE 2006.
[95] Dr. Amal Al Bayati, Director of Economic Planning and Studies, Ministry of Electricity, Interview November 23, 2011

**Figure 18: Average Iraqi Electricity Supplied and Estimated Demand by Month, 1/2009-7/2011 – MW, Monthly and 12-Month Rolling Average**




Accordingly, most Iraqi households and businesses connected to the national grid receive electricity for only a fraction of each day. According to the Ministry of Electricity recent planning document, the average daily supply of electricity for the country stands at about 8 hours per day,[96] which is roughly what it has been since 2007.[97] During peak periods of the summer months, brownouts are even more frequent and extensive. Also peak demand is further worsened as households and businesses attempt to accomplish all electricity driven activities during the same few hours power is provided. For example, during the summer of 2010, residents received as few as 5 hours per day.[98] As seen in **Figure 19**, under the Ministry's own forecast, assuming their master plan is fully implemented, Iraq would not have continuous electricity supply until 2015.

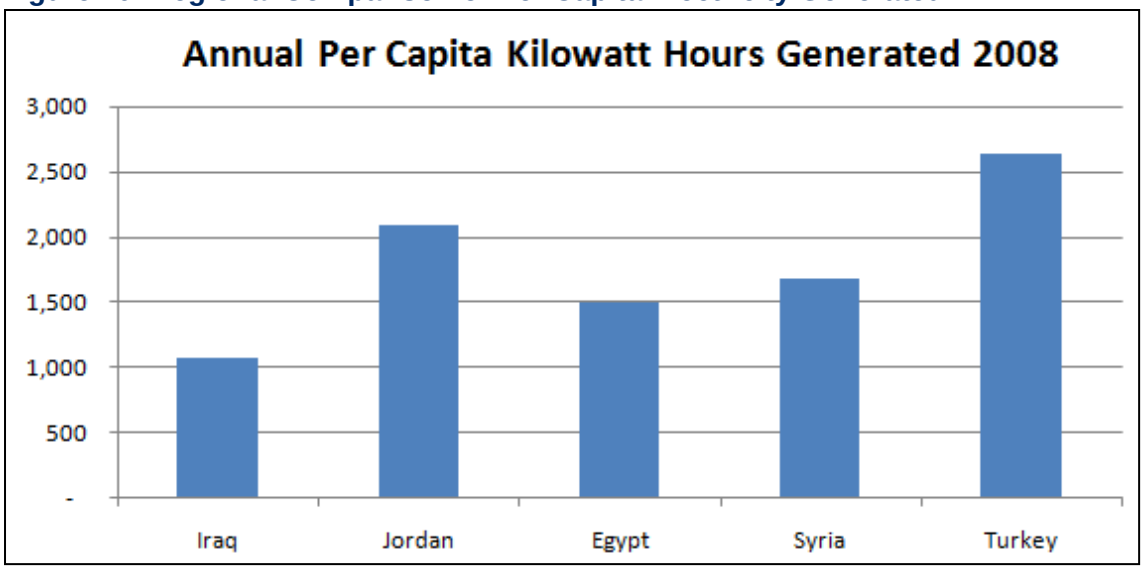
**Figure 19: MoE Estimated Timeline for Full Electricity Coverage**




[96] Iraq Ministry of Electricity Central Plan for Electricity 2011-2015. October 2011
[97] Special Inspector General for Iraq Reconstruction (SEGIR). Report to Congress. January 30,2010; World Bank Confronting Poverty in Iraq. January 2010.
[98] Iraq Energy News May 7, 2011. http://news.iraqenergyexpo.com/2011/05/07/iraq-faces-another-summer-of-electricity-problems Accessed on November 5, 2011

To put these numbers in perspective, as shown in **Figure 20**, Iraq generated less than 50 percent of electricity on a per capita basis than Egypt during 2008. Jordan generated twice as much on a per capita basis.[99]

**Figure 20: Regional Comparison of Per Capita Electricity Generated**




It should be noted that because of the limited and unreliable supply of publicly provided electricity, many households and businesses own and operate private generators powered by diesel fuel. In Baghdad alone, it is estimated that households and business have a generation capacity of at least 800MW or about 25 percent of the total demand.[100] Diesel-powered generation is costly and highly polluting.

In terms of overall electricity consumption, the household sector is the largest consumer of electricity; in 2008 the households accounted for 45 percent of the electricity consumption. The industrial sector consumed about 25.3 percent and the public sector consumed 20.8 percent, followed by the commercial sector at 5.3 percent and the agricultural sector at 3.6 percent. As the economy continues to recover, demand for electricity will increase for all sectors putting even greater strain on the system.

Iraq's transmissions network consists of 400kV and 132kV systems. The 400Kv grid dates to the 1970s and mostly carries power generated in the Northern and Southern Regions of Iraq to the Central Region. The 132kV network serves as a sub-transmission line carrying power to the distribution network within the governorates.[101]

Although the vast majority of households in Iraq are connected to the national grid, the degraded condition of the transmission and distribution system results in an estimated 30 percent loss during conveyance from generation to user. Making matters worse is the problem of illegal hookups which not only remove power from the grid, but do so in an inefficient manner and one which can cause fires and electrocutions. Unlike the 90 to 95 percent of legal customers whose electricity is metered by the MoE, users of illegal hookups are not metered. These losses combined with generation problems result in the frequent outages experienced by end users. The MoE estimates that in addition to its 3 million registered customers that there are 1 million illegal hookups.

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[99] Source: U.S. Energy Information Administration, International Energy Statistics database, 2011. http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm Accessed on January 12, 2012

[100] Iraq Oil Report. Powering Baghdad May 27, 2011.http://news.iraqenergyexpo.com/2011/05/27/heading-off-summer-power-protests.Accessed on November 5, 2011.

[101] Redaet.et. al. 2006.

**Role of Public Sector**

Iraq's electricity system is governed by the Ministry of Electricity (MoE) which is responsible for the generation, transmission, and distribution of electricity. Formed in 2003, the Ministry replaced the Electricity Commission. According to COSIT, in 2007, the electricity system employed 59,571 employees of which 51,924 were male, and 7,644 were female.[102] No data were available on category or wage rates. Engineers comprised about 2 percent of the total, technicians 60 percent, while administrative staff accounts for almost 20 percent of the employees. Although there are no more recent official data, the Directorate General of Distribution, estimated that the total permanent and contract force employed by the MoE exceeds 100,000.[103] According to the MoE, the average number of employees required to generate 1 MW in developed countries is one; that ratio is 15 in Iraq and 3 in the region. The MoE has separate Directorates for Generation, Transmission, Distribution, and Operations and Communications.

The MoE sets electricity prices which are highly subsidized. For example, in response to vocal consumer protest against poor service provisions, the Ministry began in March 2011 providing Iraqi households with the first 1,000 kilowatt-hours of electricity for free each month. Under the new pricing scheme, consumers pay 50 dinars per KWH for between 1,000 and 2,000 KWH, 80 dinars for between 2,000 and 3,000 KWH, and higher tariffs for higher amounts.[104] The percentage of customers paying their bills has risen, but total revenues are only about 60 percent of pre-2003 levels. Cost recovery rates are estimated at 130 ID per Kwh. Over the long-term, the sustainability of the power sector will require cost recovery with a rational tariff structure. However, until and unless end users are able to receive acceptable service levels, their willingness to pay will be not likely to match full recovery costs.

The MoE attempted to bring in private sector investment through the creation of partnerships with four Independent Power Producers (IPPs). The IPPs would build, operate, and transfer (BOT) the facilities while receiving revenues from the sale of the produced electricity. Because the IPPs and the MoE could not agree on a price the contracts were never consummated.[105] In contrast, the KRG was able to sign two IPP contracts and one of the plants is reportedly near completion. There is also increasing tension between the provinces and the MoE. The lack of electricity has spurred interest in creating provincial power grids; however, the MoE is adamantly opposed to any devolution of its powers to subnational jurisdictions and seeks to maintain a single national grid.[106]

Recognizing the huge challenges it faces in ramping up electricity production, the MOE recently issued both a 5-year master plan and a 20- year strategic plan. The highlights of the 20-year strategic plan are as follows:

- Capital investment of $77 billion over 20 years for generation, transmission, and distribution
- Natural gas should become the preferred fuel
- Short term should focus on expeditious conversion of heavy fuel turbines to gas
- New plants built after 2015 should be combined cycle plants burning gas

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[102] COSIT Average Employees Number, Wage Rate by Category and Gender in Electricity Sector 2007. http://cosit.gov.iq/english/AAS2010/section_4/4-20.htm Accessed on November 16, 2011.
[103] Nafaa Abdelsada Meeting with Economic Team at MoE, December 4, 2011
[104] Al Arabyia News, "Iraq Government to Supply Free Electricity." February 11, 2011. http://www.alarabiya.net/articles/2011/02/12/137362.html Accessed on November 3, 2011.
[105] Tom Donovan, Iraqi Law Alliance. Per telephone conversation November 16, 2011.
[106] Per Interview with Dr. Amal Al Bayati, November 23, 2011

- Leverage existing gas and pipeline plans while building new high voltage transmission lines

The plan focuses on the technical side but does not address legal and regulatory issues. Also it should be noted the KRG developed its own electricity master plan in 2009 and there has been no formal effort to coordinate or integrate the two plans.

The Master Plan for 2011-2015 addresses the challenges faced in meeting growing demand for electricity. To meet the electricity demand for 2015, the MoE plans to add 20,847 MW of capacity in the five-year planning period. Approximately 15,000 MW would be installed in 2013 and 2014. For optimal electricity production, there would need to be a seven-fold increase in natural gas supply; however, the MoE forecasts that the supply of natural gas will be 50 percent of forecasted generation requirements. Therefore, inferior fuels such as heavy fuel oil will still be used in gas plants resulting in continued degraded performance and elevated maintenance costs.

This medium-term plan also requires significant rehabilitation and expansion of the transmission and distribution system. For example, the Master Plan calls for 85 substations for the kv132 transmission network and 17 substations for the 400kv network by the end of 2015. Some 2,125 kilometers of kV lines are planned to be added as well as 1,640 kilometer of 400kv line. Finally, the plan involves significant upgrades of the distribution network. Without rehabilitation and expansion of all three components Iraq will not be able to meet its objective of providing full time electricity to households and businesses. Even if all infrastructure projects are completed as planned, Iraq will still be a net importer of energy. The total estimated cost to provide full-time electricity for the 5-year period is $31.8 billion including $26.8 billion for capital investment and $5 billion for imports. It should be noted that MoE's capital budget for 2011 was $3.2 billion.

## II. Constraints to Necessary Economic Performance

The demand for electricity in Iraq greatly outstrips the capacity of the Ministry of Electricity to deliver power on a continual basis anywhere in the country. The failure to provide electricity to consumers adversely impacts all of the major sectors of the economy, including the household sector. There are numerous reports of businesses and factories closing down because of the failure to obtain electricity. All households and businesses that can afford to generate their own electricity do so. Business and household investment in outdated power sources is inefficient and diverts scarce resources away from other productive investments. The failure to provide such a basic public service also undermines government credibility and allows for the proliferation of competing interests. There are now many small power providers in the neighborhoods of Baghdad that sell electricity to customers using ad hoc built distribution systems.

Failure to provide this basic service is multifaceted but is largely attributable to the government unable to marshal and manage the necessary resources to restore and expand the national electrical system. Simply put, Iraq lacks the generation capacity to meet the country's basic requirements and its transmission and distribution networks are significantly degraded and misused so that the deficient power production is lessened by transmission losses and illegal diversions generated power.

Without adequate funding the MoE will not be able to meet the objective of full time provision of electricity by the end of 2015. Basic capital infrastructure investment requirements are estimated at $25.8 billion through 2015. Current annual capital budget is $3.2 billion. The MoE has limited ability to reallocate funding to meet changing priorities. This results in long delays and increased costs. Its decision making process is fragmented across the different

directorates and it requires approval from the Ministry of Finance to reallocate capital budgets.

There is a severe shortage of natural gas to fuel the gas turbine production plants. Heavy fuel oil is used which degrades performance and increases operation and maintenance costs. Projected natural gas supply remains at about 50 percent of demand through 2015.

Attempts to create PPPs with Independent Power Producers have failed because of lack of process for developing agreements. The MoE is does not have the technical capacity to evaluate proposals, establish rates, or execute contracts. It is doubtful that the MoE has the capacity or ability to implement large scale projects, and to conduct high-quality operations and maintenance of existing systems. Deficiencies range from engineering supervision to budgeting expertise. There is a notable lack of skilled labor for the management and operation of all activities. Years of neglect have resulted in a transmission infrastructure that is grossly inefficient. The deteriorated networks result in large system losses. The distribution systems are unreliable and hazardous to residents because of illegal hookups. Without new and upgraded networks, new generation capacity will provide only marginal improvements in service.

These impediments (constraints) to a well-functioning electricity system are but the symptoms of more fundamental causes. We now turn to the diagnostic protocol.

## III. Diagnostics

The diagnostic phase of our work seeks to further analyze the constraints discussed above. To this end, the Assessment Team conducted a review of the literature, including consultant and donor project reports, Iraqi planning documents, and held discussions with Iraqi experts. The lists of experts included Ministry of Electricity executives from the Economics Planning and Studies Department and the Distribution Directorate, Iraqi consultants formerly with the MoE, and a representative from a major energy company providing power equipment to Iraq. This work resulted in the identification of a specific set of pertinent causes of the poor performance and productivity of the electricity system in Iraq.

The above assessment resulted in the identification of five important causes of the current dysfunction. These five explanations of the current dysfunction are: (1) shortage of fuel supply for generation; (2) regulatory obstacles that stifle MoE functioning; (3) the inability of public-private partnerships to emerge and function; (4) the poor level of skills throughout the system; and (5) the lack of investment and operating funds;

The detailed workshops carried out with Iraqi experts were devoted to developing a ranking of the important impediments and the above five reasons for their persistence. Experts were asked to assign scores (or weights) to each of the five possible initiatives that would rectify the causes of current dysfunction. Workshop participants identified four initiatives that were considered to be highly urgent, and an additional two initiatives that were deemed to be of intermediate urgency. Initiatives deemed to be highly urgent were assigned a score of 5, and initiatives of intermediate urgency were assigned a score of 3.

Next, these six development initiatives were judged in terms of their contribution to other economic activities in Iraq. It is important to assess the possible contribution to other economic activities from correcting this specific dysfunction in freight and logistics. This attribute of rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 25**.

**Table 25: Promising Development Initiatives to Improve the Electricity System**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Fuel Supply for Generation | 5 | 5 | 5 | |
| Regulatory Obstacles in MoE | 5 | 1 | 3.4 | |
| MoE Capacity to Manage PPPs | 5 | 5 | 5 | **3.96** |
| Labor Force Skills | 3 | 1 | 2.2 | |
| Funding and Budgeting | 5 | 3 | 4.2 | |

The Table lists the five specific development initiatives for electricity, each with an "initiative value" (IV). These individual IV scores were derived as follows:

For example, an initiative to rectify current flaws in facilitating the PPP approach was deemed to be highly urgent (5), and to have high additionality (5). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 5.0 derived as: 5 x 0.6 + 5 x 0.4 = 5.0.[107] Repeating this for the other causes of dysfunction yields five initiative values (or scores). These five IV scores were then averaged to obtain a Program Value Score (PVS) of 3.96. These PVSs for the other economic activities could then be compared to assign priorities to development programs across the nine economic activities under consideration.

## IV. Program Implications

The current GOI policy is to rehabilitate and expand the production, transmission and distribution network using public sector resources only. That is the MoE will fund and oversee all infrastructure projects and maintain a single national grid that will operate under its jurisdiction. Unless, funding allocations to the MoE increase substantially it will be very difficult for the government to meet its own stated objective of providing full time electricity by the end of 2015. One option of relieving pressure on the capital budget would be to allow the private sector to build some of the new required generation capacity. Previous efforts have not come to fruition partially because of the complexity of financing schemes and the need to ensure that public will be best served by the negotiated contracts. Iraq lacks the expertise and experience in negotiating and managing these types of contracts. Our discussions with the MoE indicated that the new MoE Minister might be open to considering the use of PPPs to accelerate the rebuilding of the power sector. If that were the case, then technical assistance to the MoE in creating PPPs and building capacity to manage the ensuing contracts could prove to be of great benefit to the MoE.

From a policy point of view, improving decision making within the GOI and the MoE to empower the Ministry with greater flexibility to meet its changing priorities would, if successfully implemented, result in a high payoff. Similarly, providing technical assistance to help the MoE create a framework for undertaking PPPs could also lead to high payoffs. The notion of rationalizing tariffs and increasing the costs to end users so to relieve budgetary pressures on the MoE would be problematic in the short-term, given the poor deliver service currently provided. Eventually, however, the MoE will need to implement cost-recovery pricing schemes. In the short-term it would make sense to initiate studies on alternative tariffs schemes and options to implement them.

[107] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

# A.4 WATER

## I. Importance and Assessment

The Tigris and Euphrates Rivers, which both begin in Turkey, have been the lifeblood of Iraq for millennia, allowing humans to thrive and develop agriculture in an otherwise arid and harsh environment. The confluence of the two rivers in southern Iraq forms the Shatt Al-Arab river basin, which flows into the Persian Gulf after a course of about 190 kilometers. The combined annual flow of these rivers as they course through Iraq is about 58 billion cubic meters (bcm).[108]

The two rivers differ considerably in their contribution to Iraq's water supply. An annual average of 59 to 75 bcm constitutes the annual water resources available to Iraq. The Euphrates River has a catchment area of 579,314 square kilometers, 49 percent of which is in Iraq. From 2000 to 2007, it had an annual average flow of 16.24 bcm in Iraq, down from 19.8 in the 1990s. Given that only 3 percent of the Euphrates originates in Iraq, Iraq's supply of water from the Euphrates is more vulnerable to developments upstream than is its supply from the Tigris.

The Tigris River has a catchment area of 371,562 square kilometers, 38 percent of which is in Iraq. From 2000 to 2007, it had an annual average flow of 40.8 bcm in Iraq, down from 44.0 bcm in the 1990s. In contrast to the Euphrates, 32 percent of the Tigris originates in Iraq with 56 percent originating in Turkey and 12 percent in Iran.

Compared to its neighbors, Iraq is relatively well endowed in water resources with an estimated available supply of approximately 3,000 $m^3$ per capita per year. Minimum water needs per capita are usually considered to be 50 liters per capita per day, which is 18,250 liters (18.25 $m^3$) per capita per year. Despite this appearance of abundance, changing patterns of usage, growing domestic demand, drought, curtailment of surface water flows from Turkey, Syria, and Iran, and inadequate pollution control practices, Iraq has shifted from being a water-secure to a water-stressed country in recent years. The MOWR projects that, without changes in the situation, Iraq will be short 33 million cubic meters a year by 2015. The UNEP projects that by 2025, Iraq will become a water scarce country when annually supply is predicted to drop below 1000 cubic meters per capital per year.

With respect to the problem of sharing the water resources with Turkey and Syria, the greatest barrier to improved water is political rather than technical. The various governments do not cooperate or coordinate their water resources activities, and they treat their hydrologic data almost like state secrets, thus complicating Iraqi planning efforts.[109] There is

[108] Based on average flow for the years 2002 through 2008.Cited from an unpublished paper, INMA 2010.
[109] Darryl W. Davis, Matthew M. McPherson, Fauwaz Hanbali, Restoring Iraq's National Water Resources Management Capability: Flow Data, Data Collection Systems and Decision Support Modeling, US Army Corps of Engineers Hydrologic Engineering Center.

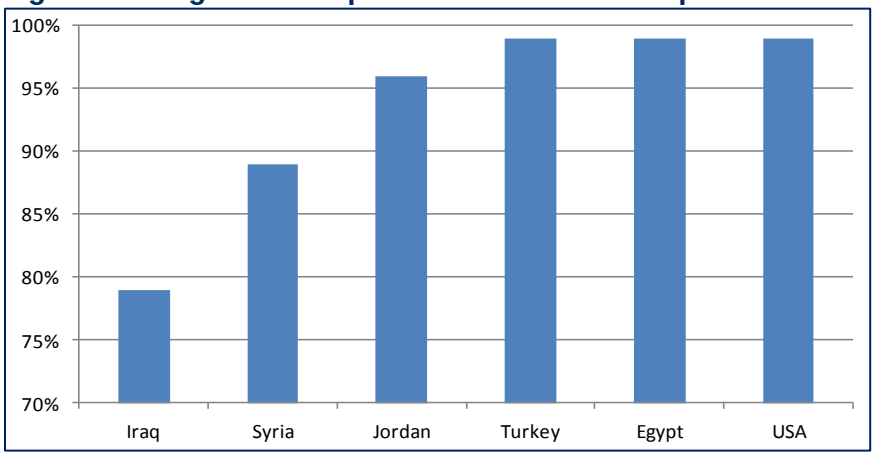
an official technical working group with representatives from each nation that is supposed to be working on the problem, but its work is hindered by the region's political problems.

Iraq has a dam capacity of 139.7 million cubic meters. Its irrigation system is a dense and complex network of barrages and canals. The distribution system includes 275 pumping stations and about 30,000 km of irrigation canals. Irrigation efficiency is only about 45 percent because many farmers rely on flood irrigation instead of more efficient methods such as drip irrigation.

Iraq's total renewable water resources each year are 75.6 bcm, of which 2 bcm is groundwater. Of this 35.2 bcm are internal renewable resources, which give Iraq a dependency ratio of 53.5 percent. Of this Iraq annually withdraws 66 million cubic meter – 78.8 percent for agricultural use, 6.5 percent for domestic use, and 14.7 percent for industrial use.[110] Iraq's renewable water resources per capita rests at 2600 cubic meter, the second highest in the region, just below Turkey.

Iraq still lags behind its regional neighbors in its capacity to supply improved water sources. As of 2008, 79 percent of people in Iraq report access to an improved water source, which is quite low for the region (see **Figure 21**). In urban areas, Iraq access rise to 91 percent, which is still quite low relative to its neighbors (see **Figure 22**). As to sanitation services, only 73 percent of Iraqis have access to improved sanitation facilities, a proportion that again trails regional figures (see **Figure 23**).[111] Further breaking this down, only 65 percent of the poor and 80 percent of the non-poor are connected to the public sewer system or use a septic tank.

**Figure 21: Regional Comparison of Access to Improved Water Sources**




[110] FAO AQUASTAT, *Iraq*.
[111] World Bank Indicators 2008, http://data.worldbank.org/indicator/SH.H2O.SAFE.UR.ZS/countries, Accessed on January 18, 2012

**Figure 22: Regional Comparison of Urban Access to Improved Water Sources**

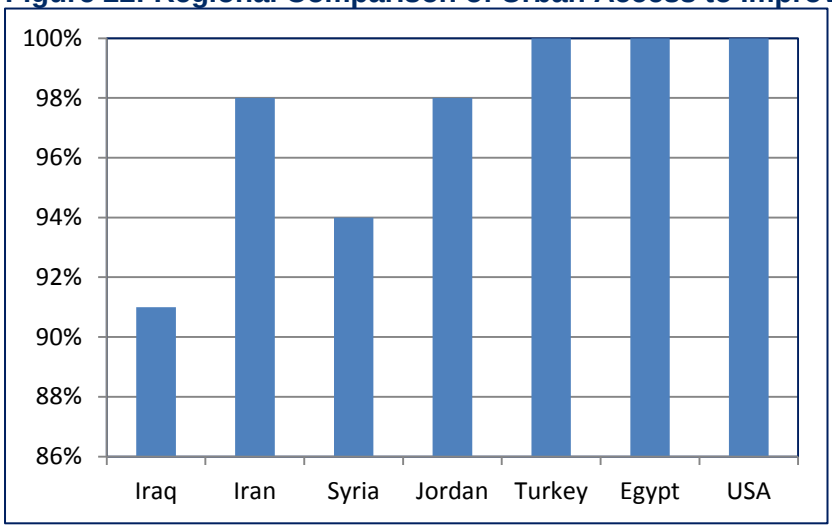
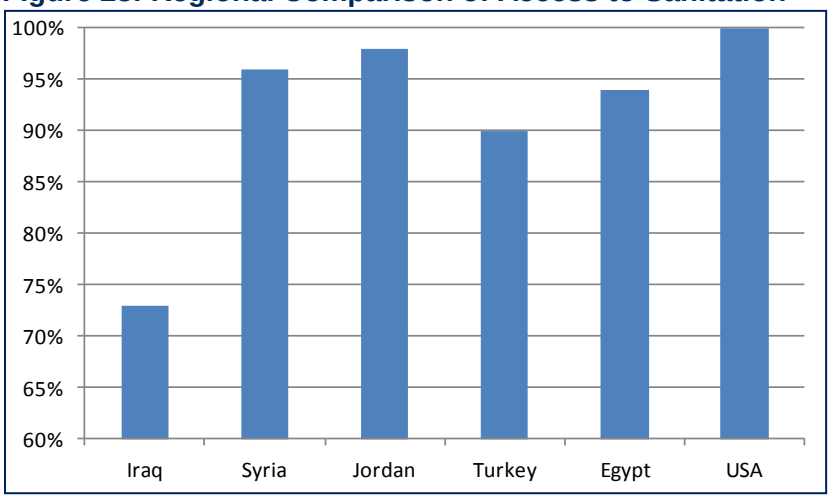



**Figure 23: Regional Comparison of Access to Sanitation**




The use of groundwater varies considerably across Iraq, with some regions being solely dependent on groundwater, whereas others are predominantly supplied by surface water. Groundwater use appears to be growing. Groundwater replenishment occurs either through precipitation or, in some areas, from river-influent seepage where river courses run across elevated outcrops of alluvial fan deposits. According to AQUASTAT/FAO 2007, internal renewable groundwater in Iraq is 1.2 bcm per year. Within the Mesopotamian Plain, the upper parts are favorable to groundwater exploitation whereas in the lower parts the water is too saline. Groundwater is also used where surface water is not readily available, e.g., in Najaf, Anbar and Muthanna governorates. There are wells located in other governorates as well. Wells pump only a few hours a day. The estimated average pumping is eight hours or less a day.

**Table 26** provides a breakdown of Iraq's current water balance. In the aggregate, under the present conditions, it is possible during a normal year to meet the water uses with some excess still available for marshlands restoration. This portrayal of the water balance, however, is simplified because it does not consider daily, monthly and seasonal fluctuations—nor does it consider regional disparities between supply and use. These can play a significant role in the ability of the flow to meet water uses in a normal year or in a given area. In such a complex system like the Tigris-Euphrates, to get a more complete

picture, it is necessary to simulate the operation of the system. Further, this model assumes the flow from Turkey and Iraq's other neighbors is not disrupted.

**Table 26: Water Balance in Iraq**

| Water Use (bcm) | Renewable Water Supply (bcm) | Percent of Total Renewable Water Resources |
|---|---|---|
| **66** | **76** | **85%** |

Water supply, in fact, is very much a regional issue. Water is more abundant, on average, in the north, in the KRG. In the central basin, water is available near the rivers and groundwater is generally adequate at this time. In the south, however, groundwater is generally too saline to use for agriculture or for domestic uses. Further, interruptions in flow of rivers from Iran can lead to desertification, as has recently happened when Iran recently cut off flows to Iraq from the al-Wind River. This forced the relocation of thousands of people.

The total storage capacity of reservoirs in Iraq is estimated to be 33 bcm. However, as with all desert climates, reservoirs contribute to water depletion—an estimated 10 bcm per year is lost through evaporation.

Water quality in the Euphrates has declined due to return flows from irrigation projects upstream in Turkey and Syria, a problem that will grow as irrigated land upstream from Iraq increases. Iraq also receives saline return flows from the Tigris River and from rivers emanating from Iran. Iraq's own irrigation practices have led to widespread salinization of farmland, which lowers crop yields. The problem of salinity grows more severe downstream, particularly afflicting the southern governorates where crop yields are significantly lower than in upstream governorates. Agricultural runoff has also produced sedimentation and eutrophication in reservoirs and dams.[112]

Water quality has also suffered due to discharges of untreated sewage and industrial wastewater. This problem is exacerbated by dilapidated wastewater treatment facilities that are not adequate to meet current treatment needs, a problem that is rapidly growing in cities whose systems are further stressed by massive in-migration. Only 17 percent of wastewater is treated before it is released back into the environment. In 2006, the total discharge of untreated sewage into rivers was estimated at one million tons a day.[113] This has a significant impact on health, in particular on child morbidity and mortality. It is estimated that 25 percent of child deaths are due to poor water and sanitation.

Iraq's desert marshlands were one of the largest wetlands in the world. They are a desert aquatic landscape with a diverse range of flora and fauna that provides a home for the Marsh Arabs. The marshlands provide habitat for approximately forty bird species and several fish species. Before the marshes were drained by Saddam Hussein, millions of birds lived there and millions more stopped during their migration from Asia to Africa. It was rich in vegetative cover, with inhabitants harvesting reeds for building material and forage.

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[112] Eutrophication is the process by which a body of water acquires a high concentration of nutrients, especially phosphates and nitrates. This super-abundance of nutrients then fosters accelerated plant growth, leading to a gradual change of the entire ecosystem. World Bank, Handbook on Iraq, 2010

[113] Iraq: Country Water Resource Assistance Strategy, World Bank, 2006.

The wetlands suffered under the Ba'athist regime, which, in retaliation for the 1991 Shi'a uprising, targeted the millennial-old Marsh Arab society. In addition to killing tens of thousands of people, the former regime relocated the remaining 100,000 people. Massive drainage structures, which diverted water from 8,000 square miles of marshes, were constructed, leading to widespread desiccation of the habitat.[114] Since 2003, there have been several programs to re-flood the area, but water supply is inadequate for a full re-flooding, and re-flooding may not lead to full habitat restoration.

In conclusion, Iraq suffers from increasing stresses to its water supply, stresses that will increase as both the population and economy grows. Continued deterioration of water quality exacerbates the problems as parts of this limited water supply become unusable for agricultural or domestic purposes. Finally, the destruction of the desert marshlands has created damage both to the area's biodiversity and to the livelihoods of native Marsh Arabs, and its restoration is impeded by the just-mentioned water supply and quality constraints.

In terms of governance, Iraq follows a centralized supply-driven approach to water management. Although for water and sanitation services the 2005 Constitution devolves power to the local level, legislation continues to perpetuate a centralized delivery arrangement. MOMPW is the main line ministry responsible for all service delivery in Iraq, except in the Municipality of Baghdad and KRG. In the water sector, it is responsible for both policy and for the production and delivery of potable water and the provision of wastewater services. These are administered through two separate directorates, which leave little room for local administration. Governorate and sub-district levels mirror the central ministry structures, serving as extensions of the ministry. Overlapping responsibilities between Ministry of Municipal Public Works (MOMPW), MOA, and the MOWR create further bureaucratic problems.

Water service delivery also suffers from the simultaneous operation of three service delivery systems: the central government provides services to 15 governorates; the Regional Government of Kurdistan provides services to its three governorates; and the Greater Municipality of Baghdad serves the capital city. All three entities operate in light of different structures, laws, and management procedures, resulting in a highly fragmented system.[115]

In terms of sector financing, water tariffs have been kept low while operational costs are rapidly rising. Domestic water is heavily subsidized with the tariff set at 4 ID ($0.034) per cubic meter, while the unit cost for production and delivery is 4000 ID, that is, 1,000 times higher than what is currently charged.[116] Wastewater tariffs are half of water tariffs. In most of Iraq, water consumption is not metered even in places where meters have been installed. Revenues therefore cover only 2-5 percent of operation and maintenance costs. Tariff charges are the lowest in the region – one-sixth as high as Iran, which is the next lowest. Such low water costs provide little incentive for more efficient water use, and they starve the water-supply sector of necessary funds to upgrade and improve the performance of the system.

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[114] The Iraq Marshlands Restoration Program, USAID, 2004. Accessed on December 3, 2011 (http://www.usaid.gov/iraq/pdf/iraq_marshlands.pdf)

[115] "Iraq Public Sector Modernization Program: Water and Sanitation Review," Geopolicity, 2010.

[116] Ibid. Baghdad Municipality tariff rates are even low at 2 to 7.5 ID for consumption rates below 90 cubic meters per month.

## II. Constraints to Necessary Economic Performance

After extensive background research, the Tijara team undertook interviews with Iraqi and expatriate experts to identify the key constraints in the performance of the water activity. It is important to keep in mind that water, as with oil and gas, electricity, and freight and logistics, is what we call a systemic activity. This means that water is an important input to all aspects of the Iraqi economy, and that if this activity is dysfunctional then most other aspects of the economy will suffer accordingly.

Despite the fact that water is an important and ubiquitous input, the activity called **water** is like all other economic activities—it must function well if it is to fulfill important and essential functions in the economy. Research on water revealed five key constraints to good economic performance:

- Water supply governance
- Water end user practices
- Water supply infrastructure
- Wastewater governance
- Shatt Al-Arab marshland ecosystem

*Water Supply Governance* The effective operation of water is currently hampered by the level of discord and dysfunction in governance of the entire system. There is no unifying national water policy that can be used to guide the sector and to prioritize during budget planning. Various users within a shared basin have no means to coordinate needs and withdrawals from the shared system. Fragmentation between ministries at the federal level (MoMPW, MOA, MOWR) and between federal and regional governments has led to overlapping responsibilities and has increased bureaucratic inefficiency. The absence of comprehensive water-sharing treaties between Iraq and its neighbors means that there is always great uncertainty—and frequent tension—in water politics.

The absence of a coherent pricing structure for all water users—domestic, industrial, agricultural—means that water is generally over-used leading to excessive strains on the system, excessive downstream problems, and wasteful practices that harm the entire economy. The absence of a proper tariff regime means that those responsible for the operation and management of the water system do not have the financial resources to make necessary improvements in infrastructure and management practices. The various dysfunctions tend to encourage atomistic water-supply strategies in which those with financial means increasingly rely on groundwater pumping—a practice that, over time, will simply exhaust Iraq's aquifers. Such pumping has already encountered saline supplies, and as pumping continues close to the Persian Gulf saltwater intrusion will only increase.

*Water End User Practices* The ineffective and wasteful practices of water end-users—whether domestic users, agricultural users, or industrial users—means that a limited and variable input is often squandered, imposing costs on all users. Ineffective irrigation practices continue to cause accelerated salinization, thereby further degrading the operation of the entire water system in Iraq. As mentioned above, the lack of a rational tariff regime provides little incentive for the efficient use of water.

*Water Supply Infrastructure* The supply and distribution infrastructure is seriously degraded and at places grossly inefficient. Iraq produces 72 million cubic meters of water a day. However, MOMPW estimates losses at roughly 50 percent. Additionally, wastewater treatment facilities are inadequate and unable to keep up with current demand.

*Wastewater Governance* The management and treatment of wastewater is inefficient and ineffective. Just as with water supply, wastewater governance suffers from unclear ministry boundaries that make better management difficult. Monitoring the water quality of wastewater discharge is performed by both MOWR and MOMPW.

*Shatt Al-Arab Marshland Ecosystem* As described earlier, the depleted marshland ecosystem is due to destructive policies under Saddam Hussein. While the exacerbation of this problem is the result of broader sector constraints that have led to it receiving inadequate water that is poor in quality, it is treated here as a constraint because the restoration of this ecosystem will require more than merely pumping good water in. Marshlands are complex ecosystems. Merely re-flooding them is not sufficient to ensure restoration. Rather, technical capacity combined with experimentation will be required. Failure to address this adequately will adversely affect the area's agricultural productivity, biodiversity, and, as a result, Marsh Arab livelihoods.

## III. Diagnostics

In the diagnostic phase of our work, the team conducted a review of various consultants' reports, donor project assessments, Iraqi documents, and we held discussions with Iraqi experts. This work resulted in the identification of a specific set of pertinent causes of the poor performance and productivity of the water system in Iraq. In response, five development initiatives were identified that offer promising opportunities to remove or meliorate the current constraints that hamper the water supply and management system. These five development initiatives are as follows: (1) improve the current dysfunctional water supply governance arrangements; (2) improve the practices of various water end-users; (3) strengthen the quality and management of the water supply and distribution infrastructure; (4) improve governance arrangement for managing Iraq's wastewater; and (5) strengthen technical capacity for marshland restoration.

As with other economic activities, the research team assigned scores to each of the possible development initiatives that would address the causes of current dysfunction.

First, each of these initiatives was ranked in terms of their urgency. Three initiatives were judged to be of the highest urgency, and two initiatives were considered to be of intermediate urgency. Initiatives deemed to be highly urgent were assigned a score of 5, and initiatives of intermediate urgency were assigned a score of 3.

Second, these five development initiatives were judged in terms of their contribution to other economic activities in Iraq. This attribute of rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 27.**

The individual initiative values were derived as follows. An initiative to rectify current flaws in the water supply and distribution infrastructure was judged to be highly urgent (5) and to have medium additionality (3). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 4.2 derived as: 5 x 0.6 + 3 x 0.4 = 4.2.[117]Repeating this for the other causes of dysfunction yields five initiative values (or scores). These five scores were then averaged to obtain a Program Value Score (PVS) of 4.0.

[117] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

**Table 27: Promising Development Initiatives in Water**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Water Supply Governance | 5 | 5 | 5.0 | |
| Water End User Practices | 5 | 5 | 5.0 | |
| Water Supply Infrastructure | 5 | 3 | 4.2 | **4.04** |
| Wastewater Governance | 3 | 3 | 3.0 | |
| Shatt Al-Arab Marshland Ecosystem | 3 | 3 | 3.0 | |

## IV. Program Implications

The results listed in **Table 27** suggest that the most promising benefits (payoff) to the Water activity are likely to come from: (1) improving water supply governance and (2) improving water end user practice. Possible programs for each of these will be considered in what follows.

The diagnostic analysis suggests that many of the individual impediments (constraints) to improved operational performance of the water system arise because of governance and management flaws throughout the entire system. Strengthening water supply governance requires addressing governance issues at multiple levels. The lack of international treaties and agreements means that there is great uncertainty over the reliable supply of high-quality water. Iraq would likely benefit from technical assistance to help them with negotiating transboundary agreements with their neighbors.

At the ministry level, strengthened allocation of responsibilities and lines of authority between competing ministries will help rationalize water supply governance, reducing duplication and strengthening regulatory oversight. At the basin and watershed level, assistance in advancing a devolved approach to management may be of great benefit. Creating legitimate governance at these levels will help ensure a more equitable and efficient use of water resources that takes into account the needs of downstream users. Iraq may also benefit from a program to strengthen hydrological data collection systems, which is essential for effective water management at the federal, regional, and local levels. Such a program would be politically benign and would provide the data necessary for transboundary water-sharing agreements, as well as for effective basin and watershed water management.

Part of the flawed governance problem relates to the absence of a coherent tariff regime for all users. While it can be politically difficult to introduce water pricing—or to increase existing prices—the evidence is clear that some minimal block-rate pricing can allow for basic "human needs" to be met and at the same time encourage economizing in water use. Perhaps of greater importance, the availability of a revenue stream provides the management authority some reliable income for necessary operation and maintenance. Finally, when users pay a fee for services received, it connects them to the management of the system and offers political leverage when problems do not get addressed. Users are paying for a service and they can be expected to demand good value for payments rendered. This link is good for improved management, and for responsible water use by customers. Assistance in rationalizing the water tariff system would require economic and financial analysis of the cost of water provision in the short-, medium-, and long-term. Operationally, donors could also help the GoI with improved systems of collection, including with modernizing and expanding the existing metering system.

Given that roughly 85 percent or more of Iraq's water is used for irrigation, and that irrigation suffers from gross inefficiency, improving irrigation techniques constitutes a very strategic area for development assistance. Scaling up drip, spray, and pivot irrigation techniques will conserve water usage, increase agricultural productivity and decrease soil salinization. It will also free up water for industrial and urban use. If a more rational tariff system is phased in, as discussed above, this will increase incentives for transitioning to more efficient irrigation approaches.

# A.5 FREIGHT AND LOGISTICS

## I. Importance and Assessment

Iraq was once regarded as having one of the most developed transport systems in the region. Since the 1980s, decades of neglect and under-investment in all modes of transportation have taken their toll. With the onset of the conflict in 2003, many key transport assets were destroyed. In addition, there was much looting that stripped transport facilities of equipment, machinery, furniture and supplies. The sector is also characterized by SOEs and their exclusive agencies, in accordance with the still-extant directive of the Law of Transportation No. 80 of 1983 and the subsidiary laws and regulations of the Ministry of Transport: "the socialist sector leads and guides transportation activity."[118]

***Roads***

Iraq's road network system encompasses some 53,000 kilometers of road.[119] As shown in **Table 28**, expressways and primary roads comprise about 23 percent of the total. Much of the network was built in the 1970s and 1980s, with little or no subsequent maintenance. Backlogs of maintenance have accumulated over the years, causing sections of pavement to fail in many areas. Contributing to the deterioration is the fact that much of the Iraq trucking fleet was designed for war transport and their load capacity far exceeds road design capacity. According to the National Investment Commission, Iraq's road infrastructure requires $40 billion for reconstruction and rehabilitation.

**Table 28: Iraq Road Characteristics**

| Road Class | Length (km) |
|---|---|
| Expressways | 1,200 |
| Primary Roads | 11,000 |
| Secondary Roads | 15,200 |
| Agricultural Roads | 14,847 |
| Border Roads | 11,000 |

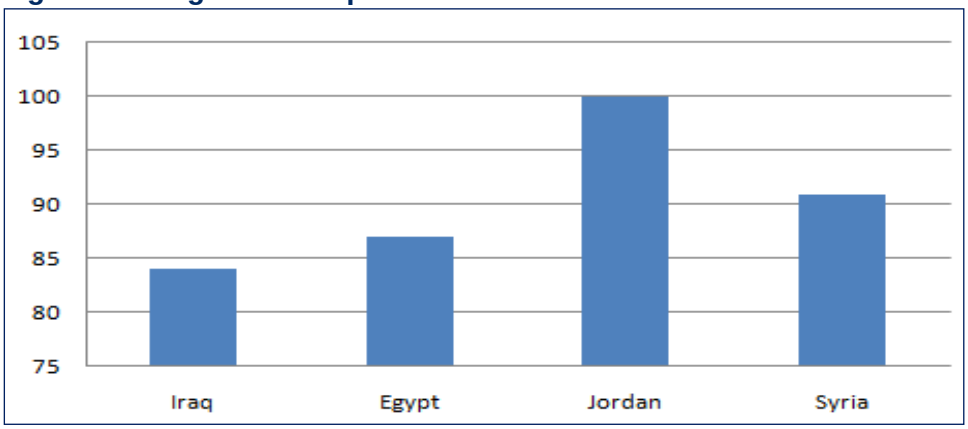
Source: Ministry of Transportation

Although the most recent data on percentage of the total road network that is paved; dates back to 2002, it is unlikely that much progress have been achieved since then **Figure 22**. In fact the lack of maintenance would likely result in some paved roads reverting to a level of service found on dirt roads.

Village access roads have been neglected to the extent that reconstruction would be the only remedy for much of the rural road network. With the breakdown of village roads comes lack of access of the villages to larger markets and to areas reached by public services, including the PDS. In addition, due to the First Gulf War and subsequent conflicts, many bridges were heavily damaged. Some have been replaced by temporary floating bridges.

[118] Article 2, Law of Transportation No. 80 of 1983
[119] Iraq Ministry of Transport; data provided by Mr. Zoham Jabor Abid

**Figure 24: Regional Comparison of Paved Roads as Percent of Total Network**




The poor conditions of the roads reduce average speeds and lengthen the time taken for each trip. Furthermore, depending upon the road segment, travel time is greatly increased due to security checkpoints. Freight companies report that there are about 25 checkpoints situated along the 600 km road from Baghdad to Basrah. Checkpoint stops can lengthen the trip from 8 hours to 15 hours.[120] Checkpoints are also commonly used to elicit non-official payments which over the course of a full trip can reach a substantial amount.

Government road laboratories were destroyed during the looting in 2003. Institutional capacity to manage the road system was also lost during this time. The laboratories played an important role in the maintenance of the Iraqi road system. Capacity of road sector management has historically been strong in Iraq. Now there is much reliance on outdated procedures and equipment.

***Railways***

The Iraqi Railways lines cover about 1,906 kilometers of track; of which only 104 km is double track.[121] Most of the track is 60 to 80 years old, although two new lines were built between 1978 and 1987. Iraqi Railways currently operate only one passenger service that carries passengers from Baghdad to Basrah. Because of the poor conditions of the tracks and rolling stock, average speeds are only about 50 kilometers per hour. Railway freight is dominated by oil products, wheat, and military goods.

Derailments are common on the network operated by the Iraqi Railways Corporation despite speed restrictions. Telecommunications and signaling equipment do not function. The railway system operates at about 50 percent capacity. It currently operates only one passenger service that carries passengers from Baghdad to Basrah.

The status of the railways is indicated by the low operational capacity of its assets. As shown in **Table 29**, most of its equipment is non-functioning.

[120] Interview with Mr. Mr. Saad Al Aftan of the Al Aftan Group, December 4, 2011
[121] Iraqi Railways Corporation “Iraqi Railways Network and Projects”, no date.

### Table 29: Iraq Railway Rolling Stock

| Type | Total Number | Number in Service |
|---|---|---|
| Main line Locomotives | 283 | 62 |
| Shunting Locomotives | 131 | 35 |
| Passenger Coaches | 307 | 46 |
| Freight Wagons | 9,315 | 2,490 |

Source: Iraqi Railways

The Iraqi Railways Corporation, which is responsible for the network, retains a labor force that is generally low skilled and with little exposure to modern managerial techniques. The Corporation employs about 8,500 workers and only about 1,500 have higher education degrees.[122] Iraqi Railways has an ambitious plan to expand and upgrade its network with more lines, including high speed service.

***Seaports***

Iraq has four main seaports that are situated along a short stretch of coastline between the borders of Kuwait and Iran. As shown in **Table 30**, the ports range in age and capacity.[123]

### Table 30: Iraqi Cargo and Container Ports

| Port Name | Date Completed | Length | Berths | Throughput Capacity |
|---|---|---|---|---|
| Um Qasr | 1965 | 4.2 km | 22 | 9-10 mil. tons |
| Khor Al Zubair | 1989 | 2.2km | 12 | 7.75 mil. tons |
| Al Makal | 1919 | 2.5 km | 6 | 2.5-3 mil. tons |
| Abu Fulous | 1974 | 0.525 km | 3 | 750,000 |

Source: Hosainy.

Presently the ports of Umm Qasr and Khor al-Zubair handle about 25 percent of imports into Iraq. However, they have the potential to be major cargo and container handling facilities, in particular Umm Qasr, which has a rated 10 million tons a year and good intermodal road and rail connections. The ports' waterway, superstructure, and equipment are all in poor condition. Chronic siltation and shipwrecked vessels in the main channels pose additional challenges to existing, and increasing, traffic volume. In the past, Basrah was the main port, but now, as with Abu Fas and Abu al-Khasib, it is unusable because many sunken vessels block waterway access. There are also major administrative problems with port operations. The different ministries using the port have their own authorities and sometimes interfere in each other's activities. There is no coordination of timing of shipping which leads to periods

[122] Interview with Hilal Al Quraishi, Director of Planning, Iraqi Railways, December 15, 2011
[123] Hosainy. "Requirements to Enhance the Competitiveness of Iraqi Ports" Master's Dissertation 2011

where there are no ships at the port while on other occasions multiple ships are left waiting for unloading. Finally, customs can take 2 to 3 days to clear paperwork.

***Airports***

There are six major airports supporting civil aviation in Iraq. These are as follows:

1. Baghdad International Airport
2. Erbil International Airport
3. Sulaymanya Airport
4. Mosul Airport
5. Basrah Airport
6. Najaf Airport

Of these airports, Najaf is the newest having received its AOC in 2008. However, it is already approaching capacity as the number of religious tourists has continued to increase dramatically over the past 3 years.

As stability has improved, so has the number of international flights reaching Baghdad and Erbil. Direct flights to and from Europe with major European carriers such as BMI, Austrian, and Lufthansa are regularly scheduled.

The Iraqi Airways company is the state owned national air carrier. It was established in 1946 as a unit of Iraqi Railways, then incorporated by law as a separate SOE in 1988. In the 1970s and 1980s it operated an extensive international route network, but during the period of sanctions and the no-fly zone following the Kuwait war, its international flights were limited to Syria and Saudi Arabia for Hajj, along with intermittent domestic flights to Basrah and Mosul. In recent years it has expanded its service both domestically and to regional destinations such as Amman, Istanbul, Cairo, Beirut and Teheran. However, Iraqi Airways has been significantly hobbled in its international operations by the attempts of Kuwait Airways to enforce a billion dollar judgment against it for the confiscation of Kuwaiti jets and equipment following the 1990 invasion of Kuwait. Litigation to enforce the judgment has dogged Iraqi Airways in Canada, the UK, and Sweden, leading to liens, seizures of aircraft, and the suspension of routes to London and Stockholm.[124]

While the dissolution of Iraqi Airways has been discussed, and even publicly announced, it has continued to operate. In addition, Iraqi Airways and the Ministry of Transportation's Civil Aviation Authority have continued to exercise control over air cargo into Baghdad, granting a controversial exclusive agencies to Iraqi Airways and to a UAE Company, RUS Aviation, for air cargo.[125] This exclusive agency has led to disputes with international airlines and at one point the withdrawal of the air cargo carrier FedEx from the Iraqi market.

***Public Transport***

Looting after the 2003 conflict devastated bus fleets, public transport offices, and maintenance facilities. These events have placed tremendous pressure on public transport systems and services which are the only affordable means of transport for many Iraqis. Ensuring mobility and affordable access to jobs, education, and health services remains a key issue, especially around fast growing cities such as Baghdad. A tremendous increase in the use of old private cars exacerbates congestion and air pollution, and makes mobility and access to job opportunities difficult, especially for the poor.

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[124] The Daily Telegraph, May 1, 2010 *First flight from Baghdad to London in 20 years ends in farce with plane impounded* http://www.telegraph.co.uk/news/uknews/law-and-order/7658857/First-flight-from-Baghdad-to-London-in-20-years-ends-in-farce-with-plane-impounded.html

[125] The National, April 3. 2011, *Air freight fees in Iraq a threat to recovery* http://www.thenational.ae/business/aviation/air-freight-fees-in-iraq-a-threat-to-recovery

Beyond the deficiencies in each of the modes of transport discussed above, it must be emphasized that Iraq has no intermodal transfers. Hence moving freight from port to rail to truck is not efficient. Overall, the state of transport in Iraq poses a profound constraint on the movement of goods and of people, and it prevents the full integration of Iraq into the international economy.

***The Role of the Public Sector in Freight and Logistics Activities***

Freight and logistics activities are dominated by the public sector with a small and fragmented private sector supplying the trucks and personnel to fill the gap left by the State Owned Enterprises (SOEs). The Ministry of Transport through its land shipping directorate is provided authority under the existing law to collect and transport all goods under the control of the public sector. The MoT therefore is the lead entity in moving food for the Ministry of Agriculture, and public distribution system (PDS) goods for the Ministry of Trade, as well as for transporting equipment and other shipments for all of the Iraqi government. The MoT has priority at the ports for moving freight to and from ships. However, because of the SOE has just 500 operating trucks (compared to 1,200 trucks before 2003), they must contract out to private truckers to meet their shipping requirements. In fact, out of 4,000 directorate employees, just 900 are active, including the 500 truck drivers.[126]

The MoT has a total of 13 state owned enterprises (SOEs) which control almost all facets of freight transport whether by land, air, or sea transport. The Law of Transportation No. 80 of 1983, the Law of the Ministry of Transport, and the laws' subsidiary regulations give the Ministry and its SOEs powerful control and exclusive agencies over transportation activities and warehousing, particularly in importing and exporting. The Iraqi Civil Aviation Authority, Iraqi Airways, State Company for Maritime Transportation, State Company for Passenger Transportation, State Company for Land Transportation, Iraqi Railways, and the General Company of Iraqi Ports are all state owned enterprises. Through these SOEs, MoT controls the operation, planning, and policy of the nation's transport system, except for highways, which are the responsibility of the Ministry of Construction and Housing (MoCH).

The private trucking industry is highly atomized with most trucking outside the State Company for Land Transportation carried out by small independent truckers. There are very few trucking companies and it is estimated that there are no companies with more than 200 trucks.[127] Most trucks used for freight transport date from the 1980s and require expensive maintenance.

Also affecting the freight and logistics activity is the retailing of diesel fuel by the State Oil Marketing Organization (SOMO), an SOE of the Ministry of Oil. In discussion with freight companies, the Economic Assessment Team was told that rather than wait in long lines for diesel fuel at SOMO petrol stations, drivers typically buy their diesel through black market distributors for 1,200 ID per liter compared to the official price of approximately 400 ID.

## II. Constraints to Necessary Economic Performance

The efficient transport of goods and services is critical to the development and growth of a modern economy. Poor service in the transport sector raises the cost of almost all commodities, lowers productivity, dampens employment opportunities, and renders an economy less competitive. Good transport services not only have the opposite effect, but

[126] Interview with Ministry of Transportation. Mr. Abbas Imran Mousa Al-Zubaidi – General Manager of Land Shipping. December 15, 2011

[127] Interview with Mr. Maytham Al- Asadi of the Al Kufan Group, December 1, 2011

can promote stability through increasing economic and social connectivity between populations. The efficiency of transport services in general, and freight and logistics services in particular, is dependent on the quality and coverage of the transport infrastructure as well as the quality of those entities providing the services. In Iraq, there are severe deficiencies in both the basic infrastructure and the entities delivering freight and logistics services. Consequently, the costs for land transport in Iraq are very high and the quality of service very low with shipments slow and unreliable.

Simply put, shipping goods in Iraq is a costly and often protracted process that can involve significant and unpredictable delays at every step. Because of the limitations to all modes of transport alternatives are rarely available and intermodal transfers are virtually non-existent.

Of a more specific nature, high freight and logistics costs impede economic growth through making almost all goods and services more expensive and rendering the economy less competitive with its neighbors. Even locally produced and sold goods are made more expensive if input materials are imported from distant locations. Slow and unreliable shipments further damage business through disruptions of production processes and inability to provide products in a timely manner.

The market for conducting freight and logistics activities is heavily skewed toward the public sector which functions inefficiently. The Ministry of Transportation's State Company for Land Transportation is authorized to transport government shipments and has priority at all ports. It has inadequate resources to meet demand and subcontracts with independent truckers. Contracting processes are protracted and unlikely competitive; the directorate is unable to reduce staff size because of legal obstacles; regulations prevent flexible and adaptive allocation of inputs and personnel, and fuel subsidies put private-sector contractors at a competitive disadvantage.

Management of the four cargos and container ports is highly ineffective and results in long delays for loading and unloading of shipments. Multiple ministries have access to ports but do not coordinate shipments—leading to periods of congestion and then slack. Due to the long period of deferred maintenance and inadequate capital investments, equipment is outdated and inefficient. State warehousing and inspection procedures are burdensome and redundant. Delays are further exacerbated by the continued blockage of channels that cannot be cleared because of available equipment is inadequate.

Iraqi highways and secondary roads are in a serious state of disrepair. Maintenance has long been neglected and pavement has deteriorated in many areas. Degraded roads significantly add to travel time and increase vehicle operator costs due to truck and car damage, and additional fuel requirements. Projects to rehabilitate, restore, or build new roads will not be sustainable without viable programs to maintain the new investments.

Iraq's transport sector is not well integrated with its neighbors. There are no transit agreements to allow freedom of truck movements in Jordan, Turkey, or Saudi Arabia. Developing a regional transport corridor with a harmonization of trucking regulations and policies, as well as coordinating new transport infrastructure and development projects, could promote regional trade. Within Iraq there are no intermodal transfer stations so freight movement is more expensive than necessary.

The labor force in both the public and private sectors is generally of a low level. Educational attainment levels of staff at SOEs are low and training and knowledge of latest technology is quite low for all modes of transport.

The general lack of security has resulted in the creation of many checkpoints along major freight routes. Each of the checkpoints requires long waits and sometimes in-kind or

monetary contributions from the truck drivers. These delays, as well as the contributions, add to the cost of shipping in Iraq. Finally, truckers can avoid long waits at official petrol stations by procuring diesel fuel from black market distributors. The avoidance of the wait comes at a cost of 1,200 ID compared to 400 ID per liter at official stations.

This list of current impediments represents a daunting catalogue of a dysfunctional freight and logistics activity in Iraq. However, these constraints to economic performance are the manifestation—symptoms—of a dysfunctional freight and logistics activity and not the causes of that dysfunction. To diagnose the causes of current dysfunction, we need to undertake a detailed diagnostic.

## III. Diagnostics

The diagnostic phase of our work seeks to further analyze the constraints discussed above. To this end, the assessment team conducted a review of the literature, including consultant and donor project reports, Iraqi planning documents, and held discussions with Iraqi experts. This work resulted in the identification of a specific set of pertinent causes of the poor performance and productivity of the Freight and Logistics activity in Iraq. Those causes are: (1) poor port governance; (2) degraded road conditions and management; (3) freight procurement and logistics; (4) poor integration into regional freight systems; and (5) poor labor-force skills. Each of these five areas offer promising development initiatives that would bring profound improvements to the freight and logistics activity in Iraq.

The detailed workshops carried out with Iraqi experts were devoted to developing a ranking of the important impediments and the reasons for their persistence. Discussions were held with several private sector logistics companies and executives from the Ministry of Transport. Workshop experts were asked to assign scores (or weights) to each of the possible development initiatives that would address the causes of current dysfunction. Workshop participants identified three initiatives that were considered to be highly urgent, and an additional two initiatives that were deemed to be of intermediate urgency. Initiatives deemed to be highly urgent were assigned a score of 5, and initiatives of intermediate urgency were assigned a score of 3.

Next, these 5 development initiatives were judged in terms of their contribution to other economic activities in Iraq. It is important to assess the possible contribution to other economic activities from correcting this specific dysfunction in freight and logistics. This attribute of rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 31**.

The Table lists the five specific development initiatives for freight and logistics, each with an "initiative value" (IV). These individual IV scores were derived as follows:

For example, an initiative to rectify current flaws in regional integration was deemed to be highly urgent (5), and to have medium additionality (3). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 4.2 derived as: 5 x 0.6 + 3 x 0.4 = 4.2.[128] Repeating this for the other causes of dysfunction yields five initiative values (or scores). These five scores were then averaged to obtain a Program Value Score (PVS) of 3.96. These PVSs for the other economic activities could then be compared to assign priorities to development programs across the nine economic activities under consideration.

[128] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

**Table 31: Possible Development Initiatives in Freight and Logistics**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Port Governance | 5 | 3 | 4.2 | |
| Road Conditions and Management | 5 | 5 | 5 | |
| Freight Procurement and Logistics | 5 | 3 | 4.2 | **3.96** |
| Regional Integration | 5 | 3 | 4.2 | |
| Labor Force Skills | 3 | 1 | 2.2 | |

## IV. Program Implications

Freight and logistics activities in Iraq could be significantly improved by a suite of development initiatives that would focus on improving labor skills of those involved in the activity, and by a comprehensive development initiative that would improve the governance and management of all ports in Iraq. In addition, some of the oil revenues could be put to good effect by the development of an infrastructure improvement fund that would upgrade roads, bridges, and port facilities in the country. Asset management is also a significant problem. The long-term return on infrastructure investment would be greatly compromised without a program to maintain the infrastructure through a dedicated fund. This is often accomplished through a fee system on road use or on fuel purchased and the establishment of a road authority. The GOI will need to consider various options to identify the most appropriate sources of revenues and strategies for conducting maintenance operations.

The freight procurement and logistics methods in the country are seriously inadequate and would yield large developmental benefits if they could be improved. This could entail a broad range of options ranging from short-term reforms of the procurement process to outsourcing or privatizing all transport services, regardless of whether the shipped goods are for a public or private sector client.

Finally, Iraq's leaders could bring important benefits to the economy if they would begin the process of close collaboration with neighbors to improve the transport system throughout the region. This would pay large benefits to all countries, and would seem to offer promising political cohesion in a region currently under political stress.

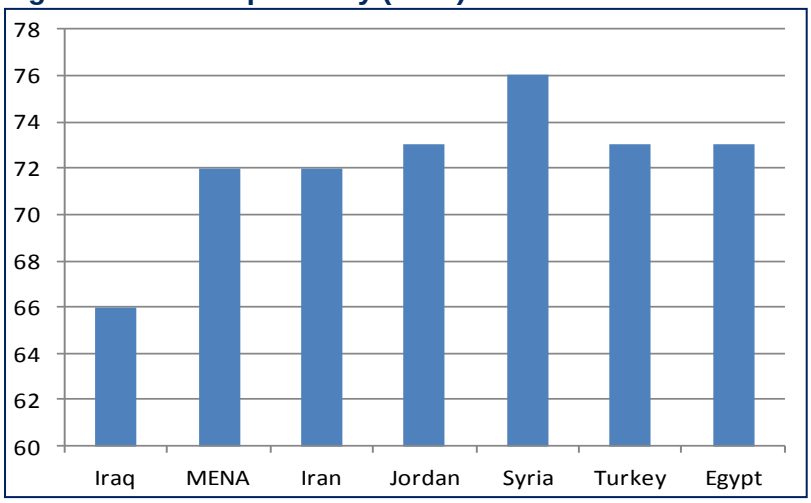
# A.6 HEALTH

## I. Importance and Assessment

During the 1970s and 1980s, Iraq was a regional leader in the level of health care service it offered, which was reflected in positive relative health outcomes. Years of war, sanctions, and isolation, however, have taken their toll. Iraq has experienced substantial emigration of many of its health workers, the health infrastructure has suffered from damage and years of neglect, and isolation has meant that Iraq has not kept abreast of the latest health care techniques.

While in 1980 Iraq's life expectancy was close to the MENA average of 57.6, it had only risen to 66 by 2009, so it has not been able to achieve the same gains in life expectancy as the region, which rose to 72. **Figure 25** shows how Iraq compares regionally in term of life expectancy in 2009.

**Figure 25: Life Expectancy (2009)**




Iraq suffers from widespread malnutrition. According to the 2006 Multiple Indicators Cluster Survey 3 (MICS-3), the prevalence of underweight children in Iraq was 7.6 percent, the prevalence of stunting was 21.4 percent and the prevalence of wasting was 4.8 percent. Worldwide, under-nutrition is responsible for one-third of child death, principally due to increased severity of disease. Malnutrition before the age of two is associated with a high risk of cognitive impairment, which adversely affects productivity later in life. Despite efforts at strengthening pre-natal and post-natal care, women widely suffer from anemia – 35.5 percent for all non-pregnant/non-lactating women; 37.9 percent for pregnant women; and 25.8 percent for lactating women).[129]

On the other hand, obesity is growing as a public health problem as about nine percent of children in Iraq have been found to be overweight.[130] Among adults, two-thirds were found to be overweight, while 38.2 percent of females and 26.2 percent of males were found to be

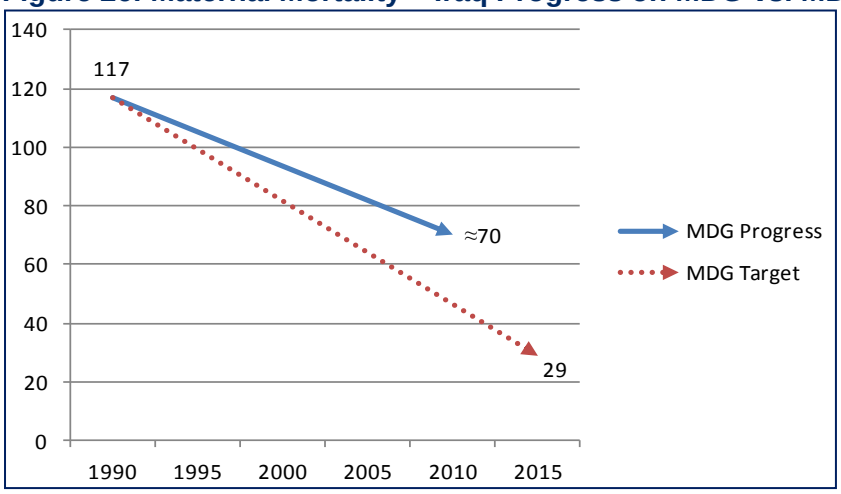
[129] WHO/Government of Iraq, *Iraq Family Health Survey Report 2006/7 (IFHS)*, Ministry of Planning/Directorate of Planning and Development Cooperation/World Health Organization.
[130] COSIT and Kurdistan Regional Statistics Office. *Findings from the Iraq Multiple Indicator Cluster Survey 2006.* Volume 1: Final Report. October 2007.

obese.[131] Thus, Iraq suffers from a double burden of under-nutrition and obesity, both of which raise the risk of chronic disease and have negative impacts on productivity and economic growth.

One in fifteen adult female deaths is due to maternal mortality. This is due to poor birth practices, inadequate availability of emergency obstetric care, and the high levels of anemia among pregnant women. As of 2008, Iraq's maternal mortality rate has come down to 75 per 100,000, down from 117 in 1990 but still far from the 2015 MDG of 29 (see **Figure 26**). On a positive note, the proportion of births attended by skilled personal has risen from 50 percent in 1990 to 80 percent in 2007.[132] Additionally, 64.1 percent of women deliver at hospitals compared to 34.3 percent who deliver at home; hospital delivery is 70 percent in urban areas and 55 percent in rural areas.[133]

Iraq's infant mortality rate has come down from what it was before the war and as of 2010 stood at 31, but it is still higher than the MENA average of 26, and not on pace to meet the MDG (see **Figure 27**). Similarly, the under-five mortality rate stands at 39, which is higher than the MENA average of 31 (2010), and also not on pace to reach the MDG of 21 (see **Figure 28**). Diarrhea and respiratory infections account for two-thirds of deaths for children under-five. Poor water access and poor water treatment are largely to blame for the former. Infant mortality, low birth weight, and child malnutrition are all associated with poverty status.[134] Iraq also needs to work on strengthening its immunization of children, which for polio and measles was reported at 69 percent in 2009.[135] In 2008 and 2009, Iraq suffered from an outbreak of measles that affected 24,000 children under age five.

**Figure 26: Maternal Mortality – Iraq Progress on MDG vs. MDG Target**




[131] World Health Organization, Ministry of Health, COSIT, *Non-communicable Disease Risk Factors Survey 2006* (Geneva, Switzerland: World Health Organization, 2006). Overweight is defined as a body mass index (kg/m2) of ≥ 25 and obesity as a body mass index of ≥ 30.

[132] "Global Health Observatory Data Repository," WHO, accessed on January 18, 2012, http://apps.who.int/ghodata/?vid=10700&theme=country#. Vaccination rates depend quite significantly depending on the source. The Ministry of Health in 2007 reported 93.5 percent coverage for MMR and 92.5 percent for polio. The World Bank's IHSES reported similar coverage.

[133] IFHS 2006/7.

[134] World Bank, *Confronting Poverty in Iraq,* Washington, DC, 2011.

[135] "Global Health Observatory Data Repository," WHO, accessed on January 18, 2012, http://apps.who.int/ghodata/?vid=10700&theme=country#. Vaccination rates depend quite significantly depending on the source. The Ministry of Health in 2007 reported 93.5 percent coverage for MMR and 92.5 percent for polio. The World Bank's IHSES reported similar coverage.

**Figure 27: Infant Mortality – Iraq Progress on MDG vs. MDG Target**

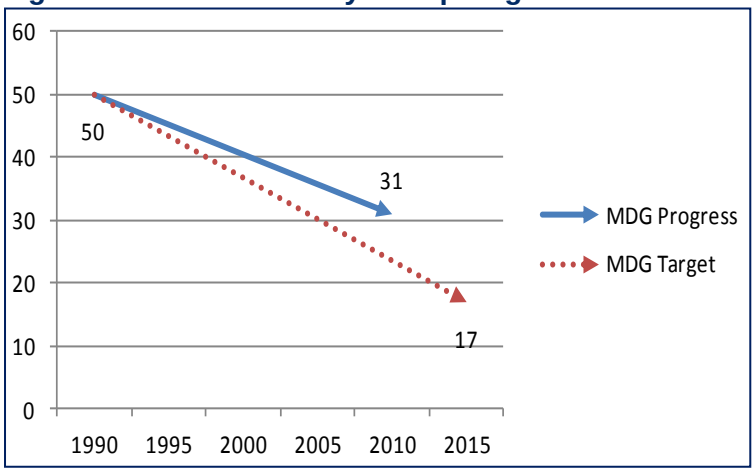
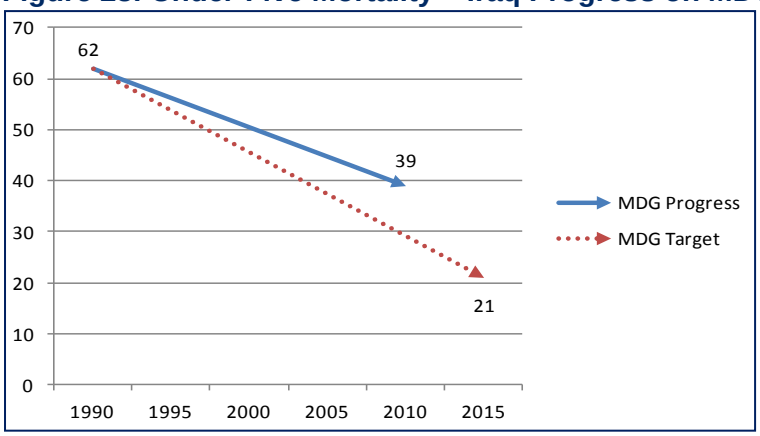



**Figure 28: Under-Five Mortality – Iraq Progress on MDG vs. MDG Target**




In terms of non-communicable diseases, WHO has identified the four most prominent as cardiovascular diseases, cancer, chronic obstructive pulmonary diseases, and diabetes, all of which share lifestyle risk factors that can be modified, such as tobacco and alcohol use, diet, and physical activity. The Chronic NCD Stepwise Risk Factors Survey (2006) reported that 40.4 percent of the adult population suffered from hypertension, 10.4 percent had hyperglycemia, and 37.5 percent had high cholesterol. Furthermore, 21.9 percent reported tobacco use, 90.5 percent reported low fruit and vegetable consumption, and 56.7 percent reported low levels of physical activity.[136] Iraq has made significant progress in the last few years in developing more policies, institutions, and practices to combat communicable diseases, including better screening for diabetes and hypertension and strengthened focus on prevention at the public health center (PHC) level.

Health care access is quite high in Iraq. In urban areas, roughly 90 percent of people (both poor and non-poor) report being within 10 km of a hospital. In rural areas, 45 percent of the non-poor and 40 percent of the poor report being within 10 km of a hospital. In urban areas almost all poor and non-poor report being within 10 km of a clinic, while in rural areas 76 percent of the poor and 82 percent of the non-poor report being so. Additionally, usage is quite high as 95 percent of both poor and non-poor report to have gone for medical help for

[136] World Health Organization (WHO), Ministry of Health (Iraq), Central Organization for Statistics and Information Technology (Iraq), *Non-communicable Disease Risk Factors Survey 2006* (Geneva, Switzerland: World Health Organization, 2006).

an illness or an injury.[137] While medical facilities are fairly available, operational hours are relatively short and growing shorter as doctors split their time between public and private practices. This has led to long lines for service and doctor visits that are often too short to be useful. For instance, the MICS-3 found that while 84 percent of pregnant women went in for pre-natal care, only 60 percent were weighed, 63 percent had urine samples taken, 66 percent had blood samples taken, and 76 percent had their blood pressure measured, all of which are standard prenatal tests. Thus, only a little over a half attended the standard four visits that are considered a minimum. Such lack of attention forces many people to seek medical attention at private facilities. One additional issue in access is security, which at times impedes people from seeking health care.[138]

While public medical services are virtually free, many seek care in private clinics and hospitals. The WHO estimates that currently the government pays for 75 percent of medical provision with the remainder being paid by people for private service provision. One study found the average per month expenditure to be 23,800 ID (17,800 ID for the poor and 24,800 ID for the non-poor). Eighteen percent of spending is for MOH services, 34 percent for private physicians, 39 percent for medicine, and 9 percent for transport.[139] Given that the poverty line established by a recent WB study stands at 76,896 ID, such expenditures constitute a consequential expenditure in people's lives. The reasons for seeking private medical services are not entirely known. Quality of service may play a part. One fact that certainly plays a role is severe disparities between supply of services and the current demand, which means that doctors are not able to give adequate attention to patients. Patients frequently wait for hours – often standing due to a lack of chairs – and then get three to five minutes with the doctor.[140] If surgery is required, they are placed on a months-long waiting list.

Up until recent years, the health care system was a centralized, capital-intensive approach focused on hospital delivery of health care services and concentrated on curative rather than preventative measures. This capital-intensive model is expensive and leads to inequitable access. In the past few years, Iraq has been shifting to a more decentralized approach using the primary health care model. Broadly, this shift to decentralization comes from the 2005 Constitution, the Provincial Powers Act and the 2009 Budget Laws, which call for fiscal and administrative devolution. More specifically, for health this vision is articulated in the MOH"s Five-Year Strategic Development Plan.

Institutionally, the MOH is charged with developing national strategies and policies for health as well as with overall planning and management. It still lacks sufficient capacity and analytical tools to develop policies based on evidence and economic benefit and there are inadequate systems in place to receive input from significant stakeholders (e.g., provincial Departments of Health; health care users). What this means in practice is that strategies, policies, and priorities often reflect the personality of the ministry's leadership and are vulnerable to political interference.

MOH also has the function of standard setting and regulatory oversight, but here too MOH suffers from a lack of guiding policies as well as internal capacity to execute these. What this

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[137] World Bank, *Confronting Poverty in Iraq* (Washington, DC: World Bank, 2011).

[138] MOH in some health facilities has tried to introduce a quasi-private model where doctors can stay after hours and earn money from treatments that are charged at elevated prices, but the money that doctors can earn here is so much less than what they can earn in a pure private practice, that there is little incentive for doctors to participate.

[139] Ibid. IHFS 2006/7 found that the average household spending for the previous month was 60,000 ID ($46) with poor paying 18,000 ID ($15) and non-poor paying 72,000 ($55). For the poor this constituted 27.5 percent of household monthly expenditure.

[140] World Health Organization/Government of Iraq. *Joint Program Review Mission 2010-2011.*

means is that there is inadequate quality management over public health care provision and private health care practices receive little oversight. As private health care continues to grow, such a lapse will need to be addressed.

Private sector health care provision has also been rapidly growing for curative services. As of 2010 MOH had a network of 2331 clinics and 229 hospitals. There are an estimated 92 private hospitals, although many of them are quite small and they are primarily located in Baghdad. The extent of infrastructure needed is not entirely clear. In the aggregate, the number of health facilities is not particularly low, although the quality of these facilities after years of neglect certainly needs to be addressed. There are also regional disparities that need to be rectified. Additionally, the older system's tendency toward specialization meant that one city might have a trauma hospital, a women's hospital, and a children's hospital. This fragmentation has prevented hospitals form benefitting from economies of scale.

Iraq suffers from a significant shortage of medical personnel. This is largely due to emigration, which began in the 1990s as sanctions forced salaries down and then accelerated in the wake of the instability following the invasion. The exact size of this exodus is not known, but one MOH estimate placed it as high as half of the nation's medical staff.[141] Although as many as one thousand of these are reported to have returned, the deficit is still gaping. The WHO reports for 2009 that there were 6.9 physicians (below the recommended 10 per 10,000) and 13.8 nurses/midwives per 10,000 people.[142] This is behind the regional average of 11.0 physicians and 15.4 nurses/midwives per 10,000 people. It also falls short of the Strategic Development Plan's goal of one physician per 1,000 and four nurses per physician. This understaffing leads to under-provision of care as doctors have little time to attend to patients. There are also great disparities between governorates (e.g., Missan at 3.5 physicians per 10,000) and between urban and rural locations. It also merits noting that training levels of support staff, which constitute the majority of personnel, are quite low (nine years of schooling or less). Only 4.5 percent of nurses are college graduates. Fully three quarters of nurses have graduated with high school or lower education.

Iraq's medical staff lag in the techniques they use as the years of isolation prevented the updating of techniques, and medical school curricula went largely unchanged. Iraq's centralized approach allows for little quality control. Students who graduate from medical school are guaranteed a job and then work as civil servants, with few performance management mechanisms in place.

For decades, Iraq provided universal health care for free, funded by general government revenue. In the 1990s, due to the contraction of resources stemming from sanctions, a fee system was introduced to help finance health services. Patients were required to pay a fee for doctor visits and later for hospital care, but medicines were still given for free. This was abandoned after the war in 2003, and free universal health care was once again reintroduced. In recent years, a small fee has been re-introduced for doctor visits ($0.30), but medicine remains free. There is currently debate as to the future of health financing with various options under consideration. Currently, there is no private insurance available for individuals.

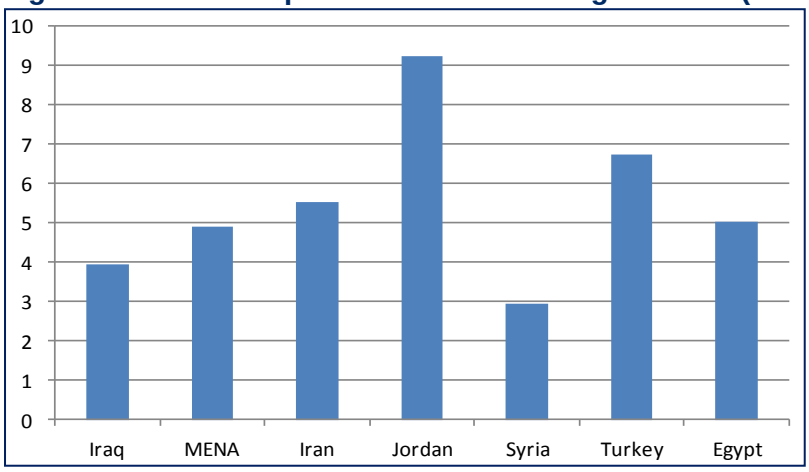
Iraq's budget for health has grown at an impressive rate from $50M in 2002 to $1 billion in 2004 to $4.85 billion in 2011, including $855 million allocated for capital expenditures and $4

[141] No one knows exactly how many doctors have returned. One report said that 1000 doctors returned in 2008 and 2009. See World Health Organization/Government of Iraq, *Joint Program Review Mission 2010-2011.*

[142] "Global Health Observatory Data Repository," WHO, accessed on January 18, 2012, http://apps.who.int/ghodata/?vid=10700&theme=country#.

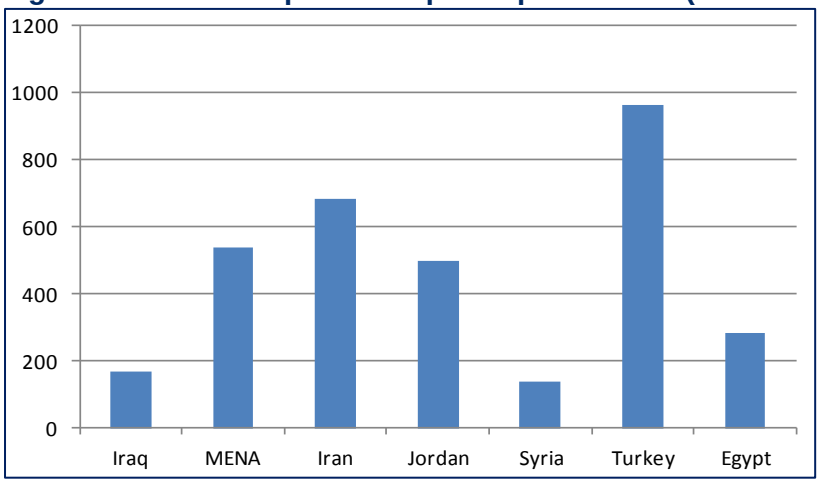
billion for operational expenditures.[143] This constitutes 5.9 percent of the budget and 5 percent of projected GDP for 2011. If private spending were added, this would probably add another percent or so. **Figure 29** provides a regional comparison of health expenditure as a percentage of GDP for 2009. While in 2009 Iraq was a bit lower than the MENA average, the budget increase in 2011 places it close to the average.

**Figure 29: Health Expenditure as Percentage of GDP (2009)**




Iraq's per capita public expenditure on health rose from $2 per person in 2002 to $179 per person in 2011. This still is significantly lower than the regional average, but represents a significant gain. **Figure 30** provides a regional comparison of per capita spending for 2009. Of course, this does not fully capture health sector spending since, as mentioned above, use of private health care services is widespread. In fact, out-of-pocket expenditure for health care accounted for 18.7 percent of health sector spending in 2010. While continued budget increases are still needed, the MOH needs to have adequate absorptive capacity to make these effective. In fact, the rapid increases in the MOH budget the past few years have led to a budget execution rate of less than 50 percent. If MOH budgets continue to increase, these increases will be of limited use in the absence of greater financial capacity within MOH.

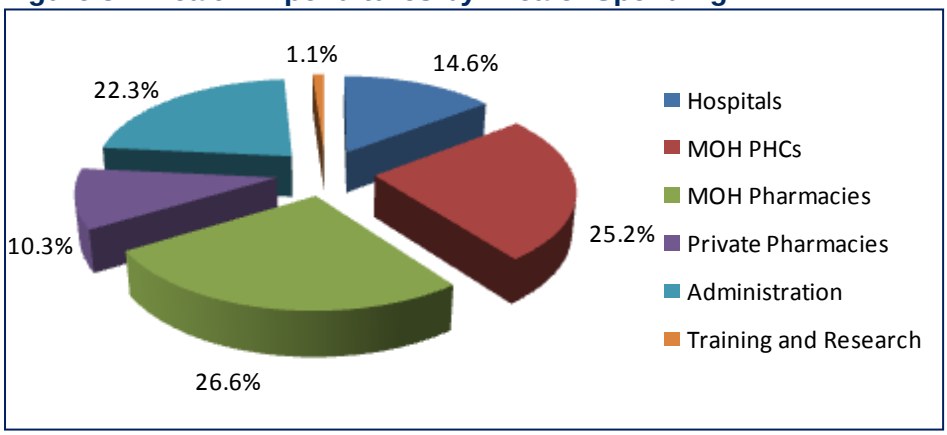
**Figure 30: Health Expenditure per Capita in 2009 (PPP in 2005 Dollars)**




[143] The proposed budget for 2012 that still needs to pass in Parliament is exactly the same but with $628 million allocated for capital expenditures and $4.2 billion for operational expenditures. If approved, this would be 4.1 percent of the budget and 3.6 percent of projected GDP for 2012. While the budget is the same as in 2011, the drop relative to GDP is due to the fact that nominal GDP is projected to rise from $114.7 billion in 2010 to $133.8 billion, a 17 percent increase due to increases in oil production and prices.

The National Health Account 2008 conducted a study of how health expenditures are used. They found that substantial share health expenditures – 37 percent – are being spent on public and private pharmacies and that a significant amount – 22 percent – is a spent on administration (see **Figure31**).[144]

**Figure 31: Health Expenditures by Area of Spending**




IHSES (2007) found that for out of pocket expenses, 36 percent was spent on medicines, 26 percent on consultations and hospital fees, and 9 percent on transportation.

One area where MOH has made great gains is in increasing doctor salaries, which are roughly $1000 a month for starting doctors and go up to $2,500 to $3,000 for doctors with experience. The continued growth of dual practices suggests that while major gains have been achieved, doctors are still not making sufficiently competitive salaries since the cost of living in Iraq is also rapidly increasing. While a competitive salary will depend on the region of service, one estimate placed the necessary doctor salary for someone with moderate experience (7-8 years) at $5,000 a month. There is also no performance-based merit pay system in place, although MOH has apparently recommended this. It is difficult to know how much doctors are earning through their private practices, but estimates place this at anywhere from $2,000 to $20,000 a month.

Health finance governance is still quite centralized, with virtually no authority being given at the hospital level. Centralized planning has also meant a disproportionate amount of resources goes to Baghdad, which receives 38 percent of the budget. Better budget planning is needed which would ensure alignment of resources with national development priorities. Greater budget balance is needed. Increases in budget have mostly gone to salaries. The investment budget is also rapidly growing, but this is not reflected in planning for maintenance expenses, a budget expense that has remained flat. Allocative efficiency is also weak as more funds are still allocated to curative rather than to preventative goals.

Raising health outcomes, of course, involves more than focusing on supply. As already mentioned, poor water access and inadequate sewage treatment lead to negative health outcomes. Also, rising food costs have prevented many poor households from being able to afford food with sufficient nutritional value, which has resulted in relatively high incidence of malnutrition. Environmental issues such as widespread civil conflict, a proliferation of illegal electricity hookups, and growing air pollution also negatively impact the health situation in Iraq. Finally, 21.2 percent of women experience domestic physical violence.

[144] Iraq NHA Team, *Iraq National Health Account 2008,* April 2011.

## II. Constraints to Necessary Economic Performance

Research on health revealed several constraints to good sector performance. This research identified five principal constraints:

- Health sector strategy
- Health management systems
- Health finance
- Health sector capacity (management, doctor, nursing)
- Physical infrastructure
- Equipment and medicine shortage
- Environment – security, water, food

*Health Sector Polic*y Iraq's current health care system is gradually evolving from a state-centric approach in health care provision to a hybrid approach that includes a combination of both public and private provision. In line with the general government move toward devolution of power, Iraq is also moving away from a specialist model centered in hospitals to the primary health care model. Unfortunately, these and other developments have no overarching policy document guiding them to ensure coherence as well as adequate systems of management and oversight. For example, doctors currently carry out their public sector duties from 8:00 AM to 2:00 PM and then transition to private practices after this shift. In some cases, they work in off-site offices, while in other cases they use public facilities and equipment. Some report that in many cases doctors only show up for a couple of hours in the morning and then shift to private work. A strategy to guide the development of health care provision is vital to ensure effective use of scarce resources.

*Health Management Systems* Iraq lacks a sufficient cadre of public health administrators who have been trained in the most recent approaches to public health management. Iraq's health management systems are quite weak and additionally need to be re-aligned to reflect the new decentralized approach to delivery. New management standards, systems, and processes have not yet been fully instituted to reflect new models for provision. Quality management systems need to be put it into place that widely involve all in the health care community in a culture of continual improvement. Capacity for planning and budgeting is largely lacking, leading to poor use of a growing budget. Many doctors complain of unfair budget allocations and HR systems that depend on connections rather than merit. Donor efforts are also insufficiently coordinated leading to unnecessary duplication. Finally, burgeoning private medical care goes largely unregulated, which has led to quite uneven health care provision.

*Management Information Systems* While some donor efforts have built health information systems within the central offices of the MoH, these systems have not been rolled out to the regional offices and health care facilities. Current systems lack integration between the various domains (human resources, finance, patient data, etc.). Greater capacity in data collection, analysis and dissemination is needed so that evidence-based decision making can more fully be used.

*Health Finance* While public health services are nominally free, the overloading of patients means that in practice most people seek private provision of health care at various times. This raises questions as to the efficiency, effectiveness, transparency, and equitability of current public expenditures in health. Budget execution rates below 50 percent suggest that the MoH needs strengthened financial management capacity. Doctors have also widely decried arbitrary methods for budget allocations which raise questions as to the current systems in place for financing health care and what kinds of incentives are attached to this.

Several doctors have pointed to virtually free health care provision as leading to overuse and to patients not taking their treatments as seriously as they would if increased payments were required. While the public budgets for health have increased rapidly the past few years, some sort of means-tested cost sharing system may merit consideration in order rationalize use as well as to provide further funding. Additionally, as the system moves to some private provision, families find themselves vulnerable to rising health costs with no insurance systems in place to manage these risks.

*Physical Infrastructure* Iraq's basic hospital and clinic infrastructure is decent in terms of coverage, although much of the infrastructure is in need of repair. Also, coverage should be examined in terms of equity as disparities in coverage exist between governorates. One easy response to infrastructure needs is to use existing facilities more efficiently. Given that official service ends at 2:00 pm in the afternoon, facilities are often significantly underutilized. An area where there is a deficit is in PHC facilities. It is estimated that roughly 1,000 of these should be built in the next 10 years in order for there to be sufficient coverage. In areas with facility deficits, it is possible that if the private sector is more fully embraced as a means for primary health care provision, such facilities could be expanded without excessive public expenditure burden. Hospitals actually exceed the number deemed optimal (100) by almost two times. As mentioned earlier, the older system's tendency toward specialization led to a proliferation of smaller hospitals, the consolidation of which could lead to a better use of resources.

*Human Resource Capacity* The number of health workers is inadequate and geographically uneven. The years of conflict led to a mass emigration of many of the medical community. As Iraq moves more to a primary health care model, a cadre of doctors with general knowledge needs to be trained. One estimate placed the current number of family physicians at 127 (4.5 per 1,000,000).[145] Iraq also lacks doctors in key specialties (e.g., anesthesia, trauma, psychiatry, dentistry, pharmacology). There is also a significant shortage in nurses and midwives. In addition, 75 percent of nurses are male. This situation weakens the reach of MOH toward women. Finally, critical skills in management – administration, planning, budgeting – are also in short supply. One study, based on current training rates, predicts the following shortfalls by 2020: 7,000 specialists; 19,000 family doctors; 73,000 nurses and 11,000 midwives.[146]

*Equipment and Medicine* Iraq lacks a lot of essential equipment in its hospital and clinic facilities (e.g., X-ray, ECG), which will require years of investment in order to catch up. While medicine is increasingly available, frequently needed medicines and vaccines cannot be found. There are reports that poor oversight has led to a lot of medicines being stolen or being taken by doctors for use in their private practices. Local pharmaceutical production has begun to revive but is in need of investment. The growth of private pharmaceutical companies for both production and importation could help meet shortages, but they suffer from inadequate oversight.

*Environment* Iraq suffers from various negative factors in the environment. Its inadequate provision of water and poor wastewater and solid waste management means that many quite preventable diseases are unnecessarily prevalent. Inadequate regulation of food also has the same effect. Frequent electricity shortages also make health care delivery difficult. Improvements in health will require the efforts of multiple ministries.

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[145] Ministry of Health. Iraq Public Sector Modernization – Health Sector Assessment and Functional Review Report.
[146] Ibid.

The security situation has created problems as well. In addition to the physical injuries resulting from violence, this violence and its effects have also created widespread psychological trauma. In fact, in one study, the World Bank estimated that 56 percent of Iraqis had been exposed to some kind of traumatic event during their lifetime.[147] The Iraq Mental Health Survey reported that 35.5 percent of Iraqis suffer from significant emotional distress.[148] In addition, the weak security environment also hampers access to health care facilities.

## III. Diagnostics

The diagnostic phase of our work narrowed the field of constraints under consideration.[149] The Tijara team used its research to identify which, of the above impediments, seem to constitute the most important (significant) constraints on improved performance of the Health activity. The team then used its research and analysis to identify the plausible causes of these important constraints. From that analysis it was possible to derive promising development initiatives to address the most important current needs (**Table 1**): (1) strengthen health governance; (2) strengthen and scale up MOH's management information system; (3) develop its health finance systems; (4) build the capacity of its human resources; and (5) improve its supply of equipment and medicines.

As with other economic activities, the research team assigned scores to each of the possible development initiatives that would address the causes of current dysfunction.

First, each of these initiatives was ranked in terms of their urgency. Initiatives deemed to be *highly urgent* were assigned a score of 5, and initiatives of *intermediate urgency* were assigned a score of 3.

Next, these development initiatives were assessed in terms of their contribution to other economic activities in Iraq. Rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 35**.

The individual initiative value (IV) scores were derived as follows. Notice that an initiative to strengthen health governance was considered to be highly urgent (5), and to have low additionality (1). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 5.0 derived as: 5 x 0.6 + 1 x 0.4 = 3.4.[150] Repeating this for the other causes of dysfunction yields five initiative values (or scores). These five scores were then averaged to obtain a Program Value Score (PVS) of 2.9.

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[147] World Bank, *Confronting Poverty in Iraq,* Washington, DC, 2011.
[148] World Health Organization/Government of Iraq, *Iraq Mental Health Survey 2006/7* (World Health Organization: 2009).
[149] To simplify the analysis, the team focuses here on initiatives directed toward MOH. As mentioned earlier, health is affected by multiple factors such as water quality, nutrition, and security. It is feasible that initiatives directed to improve water supply may yield more significant reductions in child mortality than improving drug supply to treat cholera and diarrhea. Later cross-sectoral analysis will be required to weigh the relative benefits.
[150] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

### Table 32: Promising Development Initiatives in Health

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Health Governance | 5 | 1 | 3.4 | |
| Management Information System | 5 | 1 | 3.4 | |
| Health Finance | 3 | 1 | 2.2 | **2.9** |
| Human Resource Capacity | 5 | 1 | 3.4 | |
| Equipment and Medicine | 3 | 1 | 2.2 | |

As can be seen, the health development initiatives rank low in terms of additionality, which is not quite as useful of a discriminator for health compared with other activities considered in this study. This is due to the fact that the removal of the identified constraints would not immediately address impediments or chokeholds in other economic activities. This does not diminish the importance of health to Iraq's economic and social well-being. Health is an essential service. Apart from the unnecessary suffering that a poor health system creates, poor health outcomes have negative impacts on productivity and human capital development, so increasing the effectiveness of Iraq's health care provision will have long-term positive effects on the economy. Since health care provision is identified with the government, improvements in service will also strengthen confidence in the government. These factors must be taken into consideration as the relative merits of investments are weighed.

## IV. Program Implications

The most promising benefits (payoff) to the Health activity are likely to come from: (1) strengthening health governance; (2) improving MOH's management information system; and (3) building the capacity of its human resources.

In the area of governance, the MOH could benefit from the development and implementation of quality management systems that more fully involve the entire range of health care workers. It could also benefit from an expanded cadre of administrators with strengthened capacity. As Iraq moves to a more decentralized approach, increased capacity at the regional and facility level will be needed. These capacity needs perhaps could be addressed through in-service training, as well as through exchange and twinning programs. Given the low level of budget execution, programs to improve financial management systems and personnel could help MOH increases its absorptive capacity. MOH's human resource system is also in need of being rationalized as well as having systems implemented that increase transparency. Finally, as private health care provision develops, systems and capacity for accreditation of health care organizations and for regulatory oversight are sorely needed. Additionally, public private partnerships should be explored as a means to ensure that the public and private sectors grow in a way that brings the greatest public benefit. The private sector may be particularly well-positioned to contract out for primary health care and tertiary services.

The information systems that have been developed for the central office need to be rolled out to regional offices and implemented at all health facilities. Given resource constraints, technical assistance is needed to develop information systems that are sustainable over the

long term yet adequately allow both for effective management of MOH resources as well as for management of broader public health issues. For the latter, routine systems of data collection need to be fully implemented and capacity needs to be built for data collection, analysis, and reporting, so that managers and policymakers have at their disposal the data that is necessary for them to make informed policy choices. As well, more specialists will need to be trained in health information sciences (e.g., epidemiology, demography, statistics).

The human resource needs are substantial. There are four principal areas where investments could make a significant impact quickly. First, as already mentioned, Iraq is in dire need of strengthened public administration capacity. Second, as it moves to the primary health care model, it needs a fully trained cadre of general practitioners. Third, it needs more nurses and midwives. Finally, it needs more specialists in selected areas. Existing specialists also need to be updated in their techniques. Varying modalities for training could and should be pursued – medical schools, in-service training, exchange/twinning programs, and overseas study. A program to advance medical school curriculum and to encourage greater coordination between MOH and the Ministry of Higher Education would also be beneficial. The efficiency of the use of resources might be strengthened through introducing some sort of merit pay system based on performance. Given the extent of emigration, one way to address Iraq's human resource needs might also be to develop an incentive program for return migration. Disparities in rural areas or in certain governorates might be addressed through developing compensation incentives and/or contracting out to private sector using a performance-based contracting model.

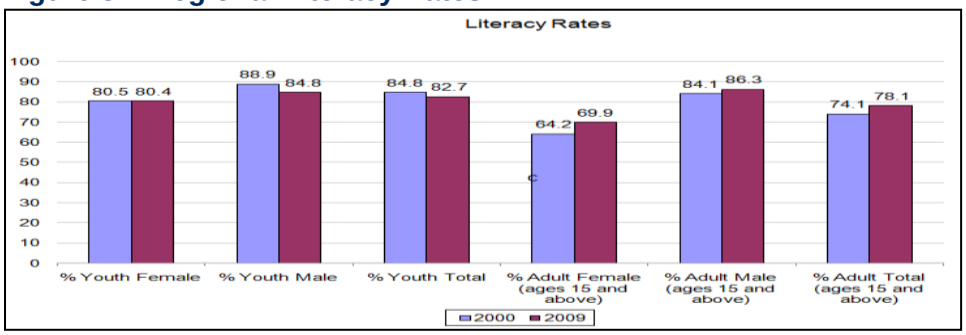
# A.7 EDUCATION

## I. Importance and Assessment[151]

Historically, Iraq's educational system was considered among the best in the Middle East. Free and compulsory education was instituted in 1976 and school enrollment and literacy rates rapidly increased. Government spending on education was comparable if not higher than in other countries in the region. However, beginning with the Iran-Iraq war in 1980 and continuing with the subsequent Gulf Wars, the educational system at all levels went into a severe decline. Primary and secondary school enrollments decreased, infrastructure deteriorated or was destroyed, and teaching materials and equipment became degraded and outmoded. Furthermore, the outmigration and displacement of teachers greatly diminished the human capacity of this activity. Government spending on education declined dramatically with per capita student spending decreasing from $623 in 1989 to $35 in 2003.[152] To put these facts into further perspective, from the 70s until the Iraq- Iran war, the GOI budget allocated for education represented 20 percent of total government expenditures (6 percent of GDP). By the 1990s this percentage had decreased to 8 percent of total government expenditures. Since 2005, the Iraqi government has budgeted for a modest increase in educational sector funding, raising it from 7.2 percent of GDP in 2008 to 9.9 percent of total public expenditure in 2009.[153]

Despite these spending increases, significant problems remain and the legacy of war and neglect will take time to reverse. A review of basic education statistics illustrates the obstacles to educational and economic development confronting Iraq. Without a properly educated population Iraq will not be able to diversify its economy, and to become competitive in science, information, and technology. As shown in **Figure 32**, more than one in five Iraqis is illiterate.

**Figure 32: Regional Literacy Rates**




Source: World Bank 2011

Closer inspection of these numbers reveals how the conflicts affected different populations. While the overall literacy rates for adults actually climbed between 2000 and 2009, literacy rates declined for Iraqi youth. Literacy rates for Iraqi males aged 15-24 declined from 88.9 percent to 84.8 percent. Female youth literacy rates stayed mostly unchanged, declining 0.1 percent to 80.4 percent.

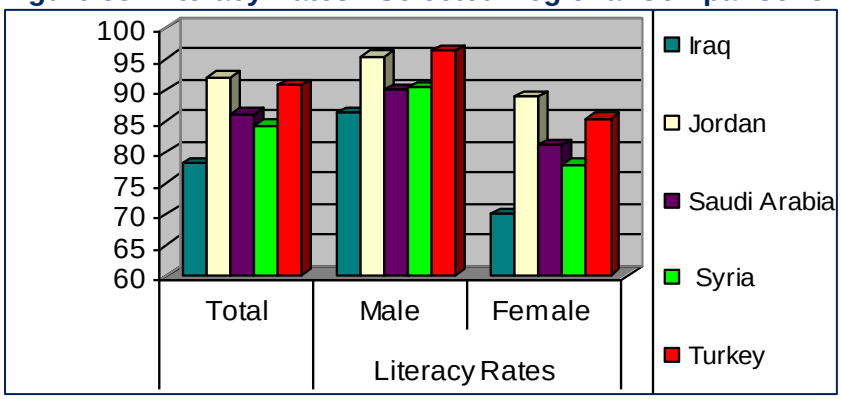
Not captured at the national level are the large disparities between urban and rural populations, and between governorates. Rural illiteracy among adults' reaches 25 percent—

[151] This section focuses on primary and secondary education and briefly addresses tertiary education constraints.
[152] Iraq Education Sector Scoping Sector, Geopolicity 2009
[153] Marilou Grégoire-Blais for Alternatives. Translation: Michael Wiseman. "Iraq: A Generation without Education?" Alternatives, Summer 2010

compared to 14 percent in urban adult populations. The disparity is even greater when gender is taken into account. In functional literacy tests amongst youth (when asked to read a sentence out loud), this disparity is further pronounced: less than 50 percent of women aged 15-24 living in rural areas were found to be literate, compared with 72-80 percent literacy rates for women of the same age group in more urban areas.[154] There are also significant differences in literacy rates amongst the different governorates, with illiteracy rates ranging from as low as 7 percent to as high as 31 percent. The *lowest* rates of literacy are found in Diyala, Baghdad (center) and Kirkuk (north), while the *highest* are estimated to be in Dahuk and Sulaimaniyah within the Kurdistan Region in the north, and Muthanna, Missan and Qadissiya in the south.[155]

Iraq's rates of literacy are significantly lower than any other country in the immediate region except for Egypt, which has an estimated 74 percent literacy rate.[156] As shown in **Figure 33**, Jordan and Turkey have adult literacy rates of 92.2 percent and 90.8 percent, respectively. Syria is the next lowest to Iraq among its neighbors with a literacy rate of about 84 percent.

**Figure 33: Literacy Rates: Selected Regional Comparisons**




The decline in youth literacy, especially among males, is likely attributable to declines in enrollment that accompanied the sanctions in the 1990s and the surge in violence during the first years of the last decade. According to World Bank Data, Gross Enrollment Rates (GER) for primary school peaked in 1980 with a gross enrolment rate of 107 percent and fell to a low of 82 percent in 1996. Female enrollment dropped to 76 percent. The GER for 2007, the last year of reported data, showed a strong rebound to 102 percent. Secondary education, showed a similar trend although at much lower levels. Secondary enrollment reached a peak of 53 percent in 1982, and dropped to 33 percent in 1999. By 2007, secondary enrollment has increased to more than 51 percent. However, overall, Iraq lags far behind its neighbors in secondary education enrollment. **Figure 34** graphically depicts how low secondary enrollment rates are for Iraq compared to its neighbors. Iraq has yet to develop strong programs to raise the literacy rate for those who missed schooling opportunities during the past decade. The higher rates of illiteracy for young males pose significant economic and societal challenges to Iraq's future development.

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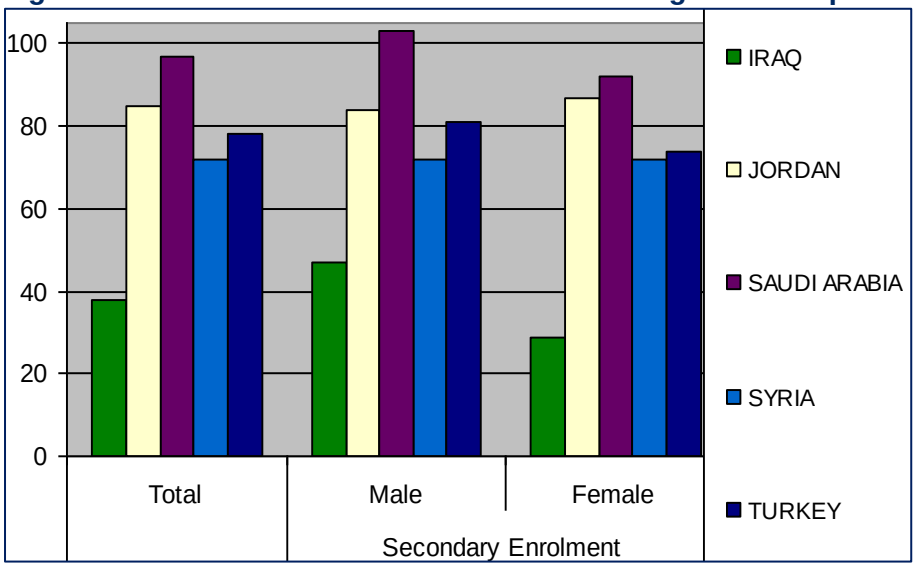
[154] Literacy in Iraq Fact Sheet, Inter Agency Information Analysis Unit, UNESCO, September 2010
[155] Ibid. September 2010
[156] UNESCO Institute for Statistics. Statistics in Brief http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=120&IF_Language=eng&BR_Country=3680&BR_Region=40525. Accessed on January 16, 2012

**Figure 34: Gross Enrollment Rates: Selected Regional Comparisons**




Source: World Bank 2001; Iraq data are for 2007 while other country data are for 2009.

As with literacy rates, enrollment levels and gender participation vary greatly from governorate to governorate. Female enrollment rates tend to be much lower in the south with the exception of Basrah and Najaf. Completion rates for primary education reached about 73 percent in 1980 but dropped to a low of 54 percent in 2000. By 2003, student completion rates rebounded, reaching almost 78 percent. But by 2007, this rate had fallen back to about 64 percent.

The above statistics present only a partial picture of the daunting challenges facing Iraq's educational system. Although enrollments have increased and government spending has started to climb back toward pre-war levels, the performance of the system remains below acceptable levels. In fact, the large increase in enrollments, combined with a fast-growing youth population has and will continue to put tremendous pressure on the capacity of the system to deliver services.

According to the Deputy Minister of Education for Scientific Affairs, Dr. Nehad A. Al-Joubory, Iraq currently has 11,700 school buildings in its inventory but will require the construction of more than 12,000 school buildings to bring average classroom size to 30 students per class.[157] Furthermore, the existing infrastructure is in poor condition with most schools operating with dilapidated buildings and nonfunctioning equipment. Classrooms are generally very small and cramped, with poor lighting and with no heating or cooling. According to Dr. Nehad, only 2 percent of the school laboratories are operational. The shortage of space is so great that most schools must operate on two shifts—with some operating on three shifts. Sports and art activities have been removed from the core curricula because of the lack of time and space. School curricula are being updated, starting with the lower grades.

The poor performance of the primary and secondary educational system is indicated by the high dropout rate, estimated at 250,000 to 300,000 students per year, and by the poor performance of Iraqi students on the state examinations (baccalaureate exam) used to determine college eligibility. According to Dr. Nehad, Karbala, which used to have the highest rate of success, only 28 percent of the schools now meet the standard of more than half the students passing the exam. In Saladin the success rate is only 4 percent. In the

[157] Workshop with Dr. Nehad was held on January 15, 2012

2008-2009 school year approximately 2,600 out of 4,500 schools in Iraq had a zero percent success rate. For comparison purposes, in 2002, 71 percent of Karbala schools achieved at least a 50 percent passing rate.

Although the above discussion focuses on the status of primary and secondary education, University education has followed a similar trend, with a severe decline in service delivery over the past two decades. Even worse, Iraq universities were looted in the aftermath of the U.S. invasion in 2003, leaving universities bereft of critical equipment and supplies. International isolation, and the loss of so many faculty members, have lowered the standards of research and led to outdated curricula.[158] The situation has improved slowly since 2003 as the country has begun to reinvest and rebuild its tertiary educational system. For example, the number of universities increased from 17 to 19, and the number of government colleges increased from 160 to 201. Private colleges increased from 13 to 19.[159]

Primary and secondary education in Iraq is administered by the Ministry of Education (MoE). University education is overseen by the Ministry of Higher Education and Scientific Research (MoESR). Private primary and secondary education plays a relatively small role in Iraq. There are only about 180 private schools, mostly concentrated in Baghdad and Basrah. For the most part they are poorly regulated by the government. Performance levels vary greatly, but for the most part, these schools have done poorly, with about 40 percent of the private schools having a passing rate on the national exam of 20 percent or less.[160]

The MoE is a large organization with more than 650,000 employees. It is responsible for the education of approximately 8 million students. The total budget is about $5.4 billion, with $450 million for capital expenditures. Per-student spending is about $675 per annum, representing a huge increase from the low point of $35 per student in 2003.

The educational system remains highly centralized despite changes in the 2005 Constitution and the 2008 Provinces Powers Act that were designed to devolve some powers and functions to the governorates. The MoE has direct administrative control over the systems for which it has jurisdiction. This reduces the autonomy of district administrators as well as school principals.

School principals, for example, have minimal authority beyond basic administrative functions and governance of student behavior. They have no authority over teacher selection, they must go through a protracted process to remove poorly performing teachers, and they have no control over the core budget.[161] The only discretionary budget is derived from a percentage of cafeteria sales, an amount that is often less than a month's salary for a teacher.

Teacher salaries are paid by the MoE and are low relative to other public-sector workers such as those with the Oil Ministry. Average salary is approximately 500,000 ID per month, with the most experienced teachers obtaining up to 1 million ID per month.[162] As a result, many teachers devote out-of-school hours to tutoring students for the national exam to supplement their income. Such activities divert focus from delivering education to their day students in the public schools.

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[158] Harb, Imad. Higher Education and the Future of Iraq, United States Institute of Peace, Special Report 195, January 2008
[159] Iraq Education Sector Scoping Sector, Geopolicity 2009
[160] Dr. Nehad Al-Joubory, Workshop January 15, 2012
[161] Workshop with School Principal from Al-Rissala Preparatory School for Girls, Baghdad. January 15, 2012
[162] Ibid.

## II. Constraints to Necessary Economic Performance

Research on the educational sector reveals a multitude of constraints to effective delivery of education services. This research identified six principal constraints:

- Facilities and Equipment
- Education Governance
- Teacher and Administrative Capacity
- Higher Education Curricula and Accreditation
- Evening Education for Literacy
- Vocational Education

*Facilities and Equipment:* As discussed above, Iraq suffers from a severe shortage of school space. It is estimated that the country needs more than 12,000 new buildings to reduce national average class size to 30 students per class. The present inventory provides only about 50 percent of this requirement. As population grows this gap will increase unless the construction pace is rapidly accelerated. Furthermore, the condition of the existing facilities is poor and the vast majority of science laboratories are not operational. At the university level, the space problem is not as extreme, but facilities in general are in poor condition. Currently, classroom size in urban areas is as large as 60 students per teacher; in rural areas classroom size can reach a multiple of this. Regardless of the quality of the curricula and teachers serving the students, classroom sizes this large are not effective in delivering services to students.

*Education Governance:* The MoE is still a highly centralized bureaucracy that allows for minimal participation of sub-national administration in conducting day-to-day management decisions, and addressing policy and planning issues.[163] This renders it difficult for the MoE to be responsive to the varying problems and issues faced by governorate and local districts. The MoE also lacks an overarching national education policy that could serve to focus the sector's strategy plans, and help to drive orderly reforms such as further decentralization of functions as appropriate The MoE also lacks strong planning and budgeting departments, thus constraining the capacity to optimize use of the budgets they managed. Also, the MoE does not have sufficient authority to regulate the performance of private primary and secondary schools

*Teacher and Administrative Capacity:* Teacher training along with all educational disciplines declined in quality during the past two decades. Also many of the best teachers retired, were displaced, or even killed during the course of the last war and the ensuing civil violence. One of the main challenges is the limited training of teachers in their fields of specialty (teaching subjects), as well as on the use of modern teaching methodologies.

*Higher Education Curricula and Accreditation:* The prolonged isolation of Iraq academics, the loss of many of its best researchers to the war and civil strife, and the lack of investment has resulted in a university system that ranks very low in quality. Curricula, especially in the science and engineering disciplines, require updating and the programs require upgrading to receiving international accreditation.

*Evening Education for Literacy:* One of five Iraqi adults is illiterate. Most alarming is the increase in illiteracy of males aged 15 to 24. This age cohort will form a major segment of the Iraqi labor force for the next 30 years. Establishing outreach programs including the

[163] Iraq Education Sector Scoping Sector, Geopolicity 2009

opportunity for young Iraqis to attend literacy classes in the evening could increase the quality of the workforce and improve the country's overall competitiveness.

*Vocational Education:* Vocational skills offer a viable alternative to students not destined to attend university. Overall, the Iraqi labor force performs at a low skill level relative to its regional neighbors and international standards. Lack of training, unenforced regulations and standards, as well as isolation from working with international companies, have been the primary causes for the lowering of skills in most of the vocational professions.

## III. Diagnostics

The Tijara team used its research to identify the above impediments as the most important (significant) constraints on improved performance of the educational activity. In addition to its literature research, the Tijara Team met with a Director General from the Ministry of Education, a school principal, educational consultants, and education experts from UNICEF.

From that analysis the team derived six promising development initiatives (**Table 36**): (1) Expand and modernize facilities and equipment; (2) Reform education governance; (3) increase teacher and administrative capacity; (4) improve higher education curricula; (5) develop evening programs for literacy; and (5) upgrade vocational programs. Essentially, all of the critical constraints identified in the previous section warrant consideration for supporting program development

As with other economic activities, the research team assigned scores to each of the possible development initiatives that would address the causes of current dysfunction.

First, each of these initiatives was ranked in terms of their urgency. Initiatives deemed to be *highly urgent* were assigned a score of 5, and initiatives of *intermediate urgency* were assigned a score of 3.

Next, these development initiatives were assessed in terms of their contribution to other economic activities in Iraq. Rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 29**.

The individual initiative value (IV) scores were derived as follows. Notice that an initiative to address illiteracy through evening programs was considered to be highly urgent (5) and to have intermediate additionality (3). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 4.2 derived as: $3 \times 0.6 + 3 \times 0.4 = 3.0$.[164] Repeating this for the other development initiatives yields five initiative values (or scores). These six scores were then averaged to obtain a Program Value Score (PVS) of 3.4.

[164] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

**Table 33: Promising Development Initiatives in Education.**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Facilities and Equipment | 5 | 1 | 3.4 | 3.4 |
| Education Governance | 5 | 1 | 3.4 | |
| Teacher and Administrative Capacity | 5 | 1 | 3.4 | |
| Higher Education Curricula | 3 | 3 | 3 | |
| Evening Education for Literacy | 5 | 3 | 4.2 | |
| Vocational Education | 3 | 3 | 3 | |

## IV. Program Implications

Given the severe constraints affecting education, all of the development initiatives listed in **Table 2** would likely generate significant benefits. It should be emphasized that for the education activity, the additionality criterion is probably a less useful discriminator than for other activities. Education is one of the most basic services provided by a government to its citizens and its impact on other economic activities is sustained and long-term. For the most part however, the removal of the identified constraints would not immediately address impediments or chokeholds in other economic activities. Education is a foundation for a strong economy but it is generally not a discreet or direct input such as water and electricity. Only two of the development initiatives can be more tangibly tied to specific economic activities. Vocational education, if effective and properly targeted, could provide the needed skilled workforce to make activities such as construction more competitive and hence it is given an addtionality score of 3. Similarly, an improved science and technology curriculum at the university level could produce more qualified engineers and scientists to meet the growing demand for these professions in the oil and technology sectors. Yet despite these higher additonality scores they would not necessary confer greater benefits to the Iraq economy than the other initiatives to rebuild and reform the primary and secondary school system. Hence, the addtionality criterion for this sector should be discounted. In sum, education is emphasized as an overarching social benefit and not because it directly benefits a multitude of economic activities.

Addressing the school-building shortage will require an increased capital budget which is a political decision left to the Iraqi government. The Deputy Ministry who met with the Tijara Team observed that it would take decades to close the building shortage gap given the current budget. However, donors could provide technical assistance to help the MoE allocate its budget more effectively. Firstly, the MoE is lacking staff with expertise and or experience in planning and budgeting. Developing a reorganized management and technical support structure with specialized departments in planning could help reduce the time it takes to plan and construct new schools. The budget could also be stretched by more effectively using outside vendors to design and build new schools. One possibility is for the MoE develop private public partnerships such that building construction is financed or co-financed with private companies. Companies that qualify for building new schools could be given management and maintenance contracts so as to obtain a return on their investment.

Unless the GOI allocates more funds to the MoE capital budget, some form of private participation will be necessary to meet long-term objectives.

Educational governance reform could encompass the use of PPPs to facilitate construction and maintenance of school buildings. However, as noted earlier, the MoE still operates as a highly centralized organization without an overarching national plan. Rapid and extensive decentralization would not likely be realistic or necessarily desirable. However, assistance to initiate simple reforms that would allow greater input from sub-national districts in planning and budgeting, as well as allowing for greater autonomy of school principals, could help create a more responsive educational system. Another potential reform discussed with the Deputy Minister of Education, would be the modification of the Education Law to improve the regulation of sector schools. In coordination with other reforms this could be beneficial so long as the approach would be to regulate performance standards to ensure minimal levels of service delivery, and if the administrative control remains transparent and consistent in order to prevent corruption.

Teacher and administrative capacity are also important to the delivery of services. One identified deficiency is the lack of trainers, especially in the teaching of science and technology. Organizations such as UNESCO have funded programs in this area but the need is sufficiently great that there could be significant benefits to building upon the existing projects.

Iraq could also benefit from the development and expansion of programs to address illiteracy and vocational training. The loss of education for so many Iraqis as a result of the last 20 years of conflict will impinge on the country's ability to develop a competitive workforce. Basic literacy is required to participate in almost all sector activities in a modern economy. The creation of learning centers available to participants in the evening hours, coupled with a robust outreach program, could create significant opportunities for Iraqis to participate in the country's economic revitalization and recovery. Similarly, reinvigoration of vocational education could boost the productivity and competiveness of the workforce. All of these initiatives would have to be carefully designed and targeted to ensure that the programs are matched to the economy's labor needs. It would obviously be counterproductive to train individuals for professions for which there is no demand.

Finally, initiatives to help update university curricula and assist administrators develop plans to achieve accreditation with internationally recognized accrediting organization could facilitate the upgrading of critical programs, especially engineering, technology and selected professional schools such as nursing and medicine.

# A.8 TOURISM

## I. Importance and Assessment

Iraq is a country rich in religious shrines and archaeological sites of historical and spiritual interest. In addition to the estimated 10,000 sites of antiquity scattered throughout the country, there are numerous religious shrines and places of significance revered by Muslims, Christians, and Jews.[165] Currently, the predominant destinations for international religious tourists are the Holy Shrines in Najaf, Karbala, Samara, and Baghdad/Kadhimiyah, which for Shia Muslims are the most sacred sites in the Islamic world, after Mecca, Medina, and Jerusalem. These Shrines bring in a large number of visitors from around the world, although the large majority of them arrive from Iran. The dominance of Iranian tourists is likely to continue partly as a result of the 2010 agreement between the governments of Iran and Iraq that increased the limit of Iranian arrivals from 3,000 to 6,000 per day.[166]

The overall number of religious visitors has been steadily rising and Iraq's Ministry of Tourism forecasts that for the 2011, international arrivals of religious tourists will reach 2 million, generating more than $1 billion in direct revenues. While this amount is small compared to the $52.2 billion earned in oil revenues in 2010, the tourism industry in general remains largely undeveloped and offers significant potential to facilitate the diversification of Iraq's economy. Furthermore, tourism can have large multiplier effect generating indirect and induced activity that reverberates throughout the national economy.

**Background**

Modern Iraq occupies a land area steeped in ancient and religious history. Religious tradition has placed the birthplace of the Prophet Ibrahim, who is revered by all three monotheistic religions, at Ur of the Chaldees, an ancient Mesopotamian city that is now part of Iraq (near the Persian Gulf),[167]Other biblical prophets are also believed to have had a presence in Iraq. For Muslims in particular, Iraq is rich in religious history and contains among the most sacred shrines of Islam in the cities of Najaf, Karbala, Samara, as well as in Baghdad.

The city of Najaf in southern Iraqis the country's most important religious destination for Muslims. Located in the city, is the shrine of Imam Ali Ibn Abi Talib, the Prophet Mohammad's cousin and son-in-law and fourth caliph (656-661 CE). Najaf also has one of

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[165] Dabrowska Tourism in Iraq: A time for Optimism. Islamic Tourism Issue Tourism Issue 36 July-August 2008 www.islamictourism.com accessed on November 10,2011

[166] Aswat al-Iraq Two million religious tourist expected this year in Iraq May 8, 2011 http://www.islamictourism.com/news_E.php?id=1857&search=najaf

[167] There is dispute among religious scholars about the actual birthplace. The city of Urfa in Turkey also claims to be the birthplace of the patriarch.

the largest cemeteries in the world. Najaf also serves as an important center of Islamic scholarship and theology. Also in Najaf province is Kufa, one of the important cities in Iraq and Muslim history. Kufa is the first Muslim capital after Medina in the era of the fourth Muslim Caliph Ali Bin Abi Talib. It contains the house of Imam Ali and a tomb of many Suhabi. It is also of great importance for Shiite Muslims.

Situated about 100 km. from Baghdad, the city of Karbala contains the shrine of the martyred Imam Husayn ibn Ali, the last surviving grandson of the Prophet Mohammad who was killed during the Battle of al Taff in 680 CE. Karbala is also the site of the holy shrine to Husayn's brother, Abbas, who was also martyred in the Karbala battle. Shiites make pilgrimages called Ashura to Karbala twice a year to commemorate Husayn's death on the 10th day of the Muslim month of Muharram and 40 days later in the month of Safar. Also a center of Islamic scholarship, Karbala has more than 100 mosques and 23 religious schools, with Imam Hussein's shrine as the city's centerpiece.

The City of Samarra, situated 120 km to the northwest of Baghdad, is the third most significant destination in Iraq for religious visitors. It is home to the al-Askari Shrine, which was heavily damaged in a 2006 bombing, but it has since been fully restored. The al-Askari Shrine commemorates and entombs Imam Ali al Hadi, the 10th Imam and father of the 11th Imam, Hassan al-Askari, who is in turn the father of the last (now hidden) Muslim Imam (al-Imam al Mahdi). Finally, within Samarra is the historic Great Mosque of Samarra that was built between 842 and 852 CE) and designed to hold 80,000 worshippers. A third shrine within the vicinity of Samarra is the Shrine of Sayed Mohammed bin Ali Al Hadi in Balad, a suburb of Salahadin.

Baghdad is the home to the tomb of the eighth century Sunni scholar and jurist Abu Hanifa, after whom one of the four accepted schools of orthodox (Sunni) jurisprudence is named. His school of jurisprudence dominates in such places as Turkey and the Balkans, Iraq, and on the Indian sub-continent, among others, so there was traditionally considerable pilgrimage traffic from those countries and regions to the capital city. Several famous tombs are also found here, including the famed mystic Abdulqadir Gilani. Finally, there are also two shrines in Baghdad's Kadhimiyah District. The first one is for Imam Moussa Al-Kadhum (the seventh of twelve Shia Imams), and second is for the ninth Imam Mohammed Al-Jawad.

There are also several Christian sites in the north. For example, the St. Matthew's Monastery, which lies just off the road east from Mosul to Erbil in northern Iraq, is one of the oldest Christian sites in the world, erected in the 4th Century CE. In the KRG, there are also other Christian sites as well as Azidi and Kakayee sites. Statistics from the Kurdistan Regional Government's Ministry of Endowment and Religious Affairs show more than 1 million tourists visited the region's religious attractions, although the majority of these visitors were from central and south Iraq.[168]

Largely due to the security situation that has prevailed for so long and the ready accessibility of other major religious pilgrimage sites, Iraq has not been a major destination for Sunni Muslims or Christians. Sunni Muslims, for example, are far more likely to partake in the Haj to Saudi Arabia where the security situation is not a factor and they able to fulfill a religious rite required for all Muslims. Similarly Christians continue to make pilgrimages to Bethlehem rather than face the security and logistical obstacles associated with traveling to Iraq. Hence, Iraq's religious cultural and spiritual assets are vastly underutilized.

The potential for the tourism sector to serve as an important driver of a developing economy is seen in **Table 34**, which shows the expenditures of inbound tourists as a share of GDP for

[168] Kurdish Globe. Kurdistan had more than 1 million religious tourists in 2010. August 19, 2011. http://www.krg.org/articles/print.asp?anr=41197&lngnr=12&rnr=73 Accessed on November 12, 2011

Egypt, Jordan, Syria, and Turkey. These estimates are direct expenditures and do not take in account the multiplier effect.

### Table 34: Tourism Indicators for Selected Countries

| Country | Inbound Tourism Expenditures as Percentage Share of GDP 2008 | Tourism Direct Employment 2008 | Share of Total Employment ** |
|---|---|---|---|
| Jordan | 16.7 | 40,100 | 8.2 |
| Turkey | 3.4 | 3.2 million | 2.8 |
| Syria | 1.6 | NA | 6.7 |
| Egypt | 7.3 | 2.8 million | 7.3 |

Sources: OECD Tourism Trends and Policies 2010; UNWTO Compendium of Statistics

As shown in **Table 34**, tourism can be a major source of employment. In Egypt it is estimated that tourism generates 7.3 percent of the total employment. It must be acknowledged that these countries already have a well-developed tourism sector that have evolved over the last three decades, with international arrivals for 2008, exceeding 21 million in Turkey and 13 million in Egypt. These countries also have a diverse tourism market encompassing recreational, cultural, and adventure tourism as well as some religious tourism. Perhaps a more relevant example is Saudi Arabia, which has used religious tourism as an important component of the country's strategy to diversify its economy. A recent report estimated that tourism accounted for 7.5 percent of the non–oil GDP.[169]

Iraq's international arrivals and revenue levels are a mere fraction of its neighbor's totals, but despite the current difficulties, Iraq has seen a gradual return of tourism and associated revenues. **Table 35** show visitors and estimated revenues for the last 5 years.

Much of the increase, however, is attributable to the surge in Iranian religious tourists. In 2010, 1.4 million of the total number of tourists was from Iran. For 2011, the Najaf Chamber of Commerce estimates that approximately 1.5 million Iranian visitors come to Najaf.

### Table 35: Number of Tourists and Estimated Revenue

| | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| **Number of Tourists** | 350,000 | 500,000 | 864,000 | 1,2562,000 | 1,500,000 |
| **Expenditures (million $)** | $170 | $555 | NA | NA | NA |

Source: Aswat al –Iraq and UNWTO[170] United Nations World Tourism Organization Compendium of Tourism Statistics2005-2009 (2011 Edition).

[169] Kuwait News Agency Tourism Contributes 7.5 percent to Saudi non-oil GDP.August 13, 2011 http://www.kuna.net.kw/NewsAgenciesPublicSite/ArticleDetails.aspx?id=2184953&Language=en Accessed on November 15, 2011.

[170] United Nations World Tourism Organization Compendium of Tourism Statistics 2005-2009. 2011 Edition

Another 250,000 to 300,000 visitors are projected to arrive from other destinations including India, Pakistan, Bangladesh, Yemen, Lebanon, Saudi Arabia, Bahrain, Europe, US, and South America.[171] Iranian visitors mostly come directly from Iran via bus or by air and then bus from Baghdad. On a daily basis, approximately 1,000 out of the 5,000 tourists from Iran arrive by plane through the Najaf airport. A typical tour lasts one week if all of the main religious sites of Iraq are included, or 3 days if the visit is limited to Najaf and Karbala.

Iraq has limited tourist infrastructure which is inadequate to accommodate the projected increase in visitors. In 2007, according to Central Organization for Statistics and Information Technology (COSIT), there were just 572 hotels in Iraq, of which 80 were located in the KRG.[172] Direct employment generated from these hotels was very modest, totally only 5,299 employees or less than 10 employees per hotel. Hence, most of these hotels are quite small in capacity.

Total annual compensation was about 14.23 billion ID or about $2,300 per hotel employee. The Kingdom of Jordan actually had fewer hotels than Iraq, but they are generally larger and of much higher standards. At the end of 2008, Jordan had 473 lodgings, of which 45 were 4- or 5-star hotels. These high-end hotels accounted for about half the rooms and beds in all classified hotel in Jordan.[173]

The situation in Iraq has improved somewhat since 2007, especially in the KRG, where there has been a building boom in the last several years. The city of Erbil already boasts several 5-star hotels with more under construction. However, there is a severe shortage of quality accommodation in the religious centers of Central and Southern Iraq. At an Invest in Iraq Summit in May of this year, the chairman of the Iraqi National Businessmen Council, Ibrahim al Baghdadi asserted that Iraq needed at least 500 new hotels just for the four main cities.[174]Range Hospitality estimates pilgrimages to Karbala to increase to more than 12 million people annually. According to Mr. Baghdadi, Karbala has only 200 hotels and none of them are five star. Accordingly, rates are very high for lodgings of low quality. Total bed capacity is estimated at 20,000 beds in Najaf and 35,000 beds in Karbala. There is currently under development a luxury serviced apartment complex in Karbala, Iraq, but completion is not expected until in 2013. Even when opened, the complex will not be able to accommodate future demand.

According to the Najaf Chamber of Commerce, the Najaf Airport will soon reach its capacity and will require an additional runaway and arrival hall to accommodate future growth in tourism.[175]

**The Role of the Public Sector**

Iraq has three separate entities that are engaged with the tourism sector: (1) The Ministry of Culture and Antiquities; (2) the Ministry of Tourism; and (3) the Iraq Tourism Commission. The Commission is the key public-sector actor working with tourism companies, but it is administratively within the Ministry of Tourism while its budget is tied to the Ministry of Culture and Antiquities. There is no tourism law which implies that coherent tourism policy is difficult to promulgate.

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[171] Personal Communication. Najaf Chamber of Commerce. Teleconference Call November 29, 2011

[172] Data include only Sulaymaniyah, Erbil and Dahouk did not report to COSIT.

[173] ABC Investments Tourism Investment Report Jordan. January 2009

[174] Hotelier MiddleEast.com Iraq needs 500 hotels to meet tourism demand May 17, 2011. http:// hoteliermiddleeast.com/11307-iraq-needs-500-hotels-to-meet-tourist-demand.html Accessed on November 13,2011

[175] Personal Communication. Najaf Chamber of Commerce. Teleconference Call November 29, 2011

The role of the public sector in the religious tourism sector has completely changed since 2003 as have the mechanisms by which religious tourists travel to Iraq, especially the Iranian tourists. Prior to 2003, Iraq's state-owned enterprise, the Al-Huda tourism company held a monopoly over the provision of transportation and other tourism services to Iranian pilgrims visiting the Shi'ite shrines in the Iraqi cities of Karbala and Najaf. Beginning with an agreement with Iran in 1997, Iraq began allowing limited number of religious tourists from Iran enter the country on tightly controlled tour packages. The initial numbers were quite small, limited to 350 visitors per week, but the ceiling was quickly raised and caravans of more than 20 buses, each carrying 40 passengers were traveled from Iran to the major sites in Baghdad, Samara, Karbala, and Najaf. Al Huda controlled all of the logistics and Iraq hotels and other guest accommodations submitted bids to Al Huda to be used by the tour groups.

After 2003, Al Huda was dissolved and central control of the religious tourism sector was relaxed. The void has shifted much of the logistical and financial control of the sector to the Iranian Agency, Shamsa, which organizes all of the Iranian religious tourism in Iraq. The hotels are booked by Shamsa; they are typically reserved only for Iranians and have a central kitchen with Iranian food served. Iraqi businessmen own most of the hotels and guesthouses and have contracts with the Iranians. These hotels might receive up to 3 busloads of tourists per day. Iraqi security companies escort Iranian tourist as they travel from the border or from Baghdad to Najaf. These companies are contracted by the Tourism Commission.

For non-Iranians, travel arrangements are usually made with independent operators established in their resident country. For example, religious visitors in Europe contact an expatriate Iraqi who then works with a local operator in Najaf to make arrangements. One major exception is for the members of the Buhra sect; they typically make arrangements with their own agency based in Karbala and Najaf, named Faidhi Hussaini.

There are few Iraqi independent agencies that are able to book foreign tourists. There are no online agencies that can accept advance payment or guaranteed reservations. Hence, the private sector infrastructure for advancing the tourism industry is considered primitive.

The quality of services associated with the tourism sector is considered substandard in all aspects. In general service workers learn through on-the-job experience. The Najaf Chamber of Commerce operates a 10-day training course for hospitality workers but it is sparsely attended because workers are not able to leave their jobs. Because hotels are almost always booked, there is little incentive for owners to release workers for training. If certification requirements were imposed than the incentive structure would change accordingly.

## II. Constraints to Necessary Economic Performance

The assessment team conducted a review of the literature, including consultant and donor project reports, and various Iraqi planning documents. In addition, members of the team undertook structured workshops and interviews with Iraqi Tourism Officials, members from the Najaf Chambers of Commerce, businessmen from Najaf, and a former manager from Al Huda, the Iraqi Tourism Agency under the previous regime. They were queried on tourism issues and asked to identify which, of the above impediments, seem to constitute the most important (significant) constraints on improved performance.

Major constraints to developing the tourist sector are political, logistical, and technical. Without addressing all three facets, Iraq will be unable to expand and diversify its tourism market and provide quality service to meet the current and projected levels of demand.

Tourism can serve as a major source of employment and become a significant factor of a developing economy. In Jordan, tourism accounts for more than 10 percent of the GDP and supplies more than 8 percent of the country's employment. The sector also can absorb a large number of relatively low-skilled workers who, with proper training and development, can move up the economic ladder.

For the tourism sector to significantly contribute to the economy, several conditions must be met, including the number and significance of tourist attractions, the ease of entering the country, the cost and quality of the services provided, and the degree to which the country provides a secure and healthy environment. As noted above, Iraq has an extensive offering of significant religious sites as well as thousands of cultural sites that have the potential for attracting large numbers of tourists beyond the current levels. Beyond the relatively secure sites at Najaf and Karbala, Iraq has not been able to fulfill any of these conditions. Even at those two sites, the quality of services is poor. It is primarily the proximity of Iran and the special arrangements with that country that has allowed religious tourism to flourish for a large but quite narrow market niche. Expansion and diversification of this market could bring large benefits to Iraq and could facilitate its efforts to diversify away from being a purely oil-driven economy

As noted, Iraq has a shortage of rooms in quality lodgings not only in the religious tourism centers of Najaf and Karbala, but throughout the country. Visitors are often compelled to stay in poor-quality lodgings with few of the accoutrements associated with four or five star hotels. The lack of high-quality hotels translates into unrealized revenue that could be obtained by attracting more upper-income clientele. Also the lack of quality accommodations in other cultural and historical attractions further dampens the attractiveness of Iraq to tourists beyond the narrow religious visitors from Iran and a few other select countries.

As in other economic activities, access to credit for financing new facilities—or for upgrading existing facilities—is limited. Some lodging owners are able to self-finance limited improvements however, based on discussions with experts; a dysfunctional credit market renders it difficult for most lodging owners to undertake the necessary improvements. In addition, obtaining the proper paperwork, and dealing with permitting issues, is a protracted and often frustrating process for would-be investors. Interviews with tourist experts indicated that projects have been abandoned due to the difficulties in bringing investment proposals to fruition.

Service quality is important to attract high-end tourists and essential to winning repeat business. International tourism is highly competitive and Iraq will not be able to expand and diversify its tourism sector without delivering quality service from its accommodations, restaurants, and other service providers associated with tourism. Most hospitality workers have little or no training and must learn on the job. Almost all interviewees observed that substandard service at hotels and restaurants is a major problem and one that deters the expansion of the tourism sector, especially in regard to the high-end customers.

Iraq is does not market its tourism sector well, nor does it make it easy for foreign tourists to make travel arrangements such as hotel reservations through the internet. Beyond the formal tourism setup for Iranian tourists, there are few alternatives for other tourists seeking to visit Iraq—especially for sites outside of Najaf and Karbala. These deficiencies are a constraint to the expansion of this activity.

Concerning governance, the tourism sector is governed by three different entities in the Iraqi government—The Ministry of Tourism, The Ministry of Culture and Antiquities, and the Tourism Commission Board. Initiatives are not well coordinated and while the Commission Board reports to the Ministry of Tourism, it is budgeted through the Ministry of Culture and Antiquities. The tourism marketing infrastructure is antiquated. There is no clearing house

for reservations and it is generally not possible to book and guarantee hotel reservations at most accommodations.

Security has not been a major constraint to the development of religious tourism especially for Iranian tourists visiting Najaf. However for other potential tourists unable to receive security escorts to the shrines of these cities, tourism is unlikely to expand and diversify. Tourists arriving by land from Iran are provided security escorts by contractors hired by the Tourism Commission Board. Tourists arriving from other locations, and interested in other attractions, do not receive this protection. The instability in Iraq will continue to deter these other tourist from coming to Iraq.

Notice that the above impediments to improved economic performance are the manifestations (symptoms) of a poorly managed economic activity and not the cause of those dysfunctions. To that topic we now turn.

## III. Diagnostics

The diagnostic phase of our work seeks to analyze the constraints discussed above. To this end, the team undertook to determine probable causes of the above impediments, and then to develop a suite of development initiatives that would, if well executed, meliorate the current constraints to effective performance. This diagnostic work resulted in the identification of a specific set of pertinent causes of the poor performance and productivity of the Tourism activity in Iraq. Those causes are: (1) poor accommodations in terms of quality and capacity; (2) low quality of the labor force; (3) the climate for investments—deriving from a protracted permitting process; (4) poor access to credit; (5) the governance of tourism in general; and (6) poor marketing and promotion. Each of these areas, if improved, holds the potential to produce vibrant and effective tourism in Iraq.

As above, the detailed workshops carried out with Iraqi experts were devoted to developing a ranking of the important impediments and the reasons for their persistence. Experts were asked to assign scores (or weights) to each of the possible development initiatives that would meliorate the causes of current dysfunctions. Workshop participants identified four initiatives that were highly urgent, and an additional two initiatives that were deemed to be of intermediate urgency. Initiatives deemed to be highly urgent were assigned a score of 5, and initiatives of intermediate urgency were assigned a score of 3.

Next, these 5 development initiatives were judged in terms of their contribution to other economic activities in Iraq. This attribute of rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 36**.

The Table lists the six specific development initiatives for Tourism, each with an “initiative value” (IV). These individual IV scores were derived as follows. An initiative to rectify current flaws in tourism governance was judged to be highly urgent (5), and to have low additionality (1). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 4.2 derived as: 5 x 0.6 + 1 x 0.4 = 3.4.[176] Repeating this for the other causes of dysfunction yields six initiative values (or scores). These five scores were then averaged to obtain a Program Value Score (PVS) of 3.67. These PVSs for the other economic activities

[176] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

could then be compared to assign priorities to development programs across the nine economic activities under consideration.

**Table 36: Possible development Initiatives in Tourism**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Accommodation Capacity and Quality | 5 | 3 | 4.2 | |
| Labor Force Skills | 5 | 1 | 3.4 | |
| Permitting Environment | 5 | 5 | 5 | |
| Access to Credit | 3 | 5 | 3.8 | **3.67** |
| Tourism Governance | 5 | 1 | 3.4 | |
| Marketing and Promotion | 3 | 1 | 2.2 | |

## IV. Program Implications

The results listed in **Table 36** suggest that the most urgent development initiatives are to be found in efforts to: (1) improve the quality and availability of tourist accommodations; (2) improving the quality of the labor force; (3) improving the general investment climate—with a focus on permitting issues; (4) and enhancing the capacity of the tourism ministries through training. When additionality is taken into account, the most promising development initiatives are: (1) improving the general investment climate—with a focus on permitting issues; (2) improving the quality and availability of tourist accommodations; (3) improving access to credit.

In sum, tourism offers some potential for substantial improvement and could help diversify Iraq's economy. The current activity is built on a very narrow market niche composed mostly of Iranian visitors on 3-day to 1-week tours. Expanding the scope of this activity will require better infrastructure, service, and an improved enabling environment for investment. Although security is not considered a major issue for the current tourism, an expanded activity encompassing cultural, historical, and recreational tourism will require substantial improvement in security as well as new investment throughout the country.

# A.9 HOUSING AND LIGHT CONSTRUCTION

## I. Importance and Assessment

Housing and Light Construction accounts for about 3.5 percent of GDP and employs up to 10 percent of the country's labor force. Over the last five years, its share of GDP has remained relatively constant, although pent up housing demand points to an increase in the sector's GDP share in the coming years. As such, this sector is in a position not only to meet a vital social need but, in so doing, to offer of place for substantial growth in employment opportunities.

Iraq's housing stock is dominated by single-family dwellings, with apartments comprising only 3.2 percent of the housing stock. **Table 37** provides a fuller breakdown of type of dwelling in Iraq. Increasingly more apartments are being constructed to meet the pent-up demand.

### Table 37: Type of Dwelling (Percentages)

| | Rural | Urban | Total |
|---|---|---|---|
| **House** | 85.6 | 94.7 | 92 |
| **Apartment** | 0.3 | 4.4 | 3.2 |
| **Clay House** | 13.6 | 0.7 | 4.4 |
| **Reed House** | 0.1 | 0.0 | 0.0 |
| **Other** | 0.5 | 0.3 | 0.4 |
| **Total** | 100 | 100 | 100 |

Source: World Bank, IHSES (2007)

Iraq has a relatively high rate of home ownership, with 78.6 percent of the respondents to the World Bank Iraq Socio-Economic Survey indicating ownership of the home (see **Table 38**). Interestingly, the poor have slightly higher rates of ownership (82 percent versus 78 percent). This is due to the fact that the poor are more likely to live in rural areas where homeownership is higher compared to urban areas. A recent survey showed that 71 percent of Iraq's population resides in urban areas,[177] a proportion that promises to rise due to increasing urban in-migration.

[177] IHSES, 2007.

### Table 38: Population by Housing Tenure and Poverty Status (Percentages)

| | Non-poor | Poor | All |
|---|---|---|---|
| **Owner** | 77.7 | 81.5 | 78.6 |
| **Renter** | 12.0 | 9.8 | 11.5 |
| **Other** | 10.2 | 8.7 | 9.9 |
| **Total** | 100 | 100 | 100 |

Source: World Bank, IHSES (2007)

While there is relatively high homeownership, the quality of housing is quite varied. According to the IHSES study, 81 percent report being connected to the public water supply with only 67 percent of the poor having such access. If this is probed further, access to a stable and sufficient water supply from the public system is reported by only 9 percent of the poor and 13 percent of the non-poor. As to sanitation services, 65 percent of the poor and 80 percent of the non-poor are connected to the public sewer system or use a septic tank. According to UNHABITAT, 57 percent of Iraq's households live in slum conditions.[178]

At this time, 27 percent of families do not have houses and the average house occupancy is higher than the acceptable average of 1.37 families per unit, and 2.23 persons per room. As shown in **Table 39,** both urban and rural populations, but especially poor populations, are crowded into too few houses.[179] Among those in urban housing, 13 percent of the households have 10 or more occupants, and 37 percent accommodate three or more persons per room. Crowding is high in Iraq compared to other countries in the region with about 57 percent of the population living in crowded housing compared to 54 percent in Yemen and 33 percent in Iran.

### Table 39: Crowding By Poverty Status and Urban-Rural Residence (Percentage)

| | Rural | Urban |
|---|---|---|
| **Poor** | 88 | 90 |
| **Non-poor** | 69 | 58 |

Source: World Bank, IHSES (2007)

Absent an expansion of housing stock, overcrowding will continue to persist due to high fertility rates and the relatively youthful population.[180] These factors, as well as urban population pressures stemming from the return of Iraqis who fled during the conflicts, low incomes, and chronic high unemployment have contributed to a dilapidated and inadequate

[178] UN-HABITAT(2009). Fact Sheet: Housing and Shelter in Iraq. UN-HABITAT defined a slum as "housing that meets one or more of the following conditions: 1) house walls are made of reed or non-stable materials or windows are made of non-stable materials 2) more than 3 persons per room (room includes bedrooms, living rooms, dining rooms, guest rooms) 3) subjective evaluation of the head of the household saying they do not have a sufficient water supply 4) 1 toilet per 10 or more persons 5) tenancy of the house is not owned, nor rented, not provided by an employer or household has no agreement with the owner."

[179] Crowding is defined as two or more persons per room which includes bedrooms, living rooms, dining rooms, and reception rooms but does not include kitchens, bathrooms, or corridors.

[180] Iraq Briefing Book, World Bank, 2010.

housing stock and a pent-up demand for both low-end and middle class housing, especially in Baghdad.

Iraq suffers from a severe deficit in housing with estimates ranging between 1 million and 3.5 million housing units. In addition, the National Investment Commission (NIC) estimates that one million houses require rehabilitation in the non-KRG provinces.[181] Demand for housing is very strong and will require active involvement of both the public and private sector.

Despite the shortage of housing, the price of housing is about average for the region using the price-to-income ratio. The ratio is a basic measure of affordability in a given area and is the median housing prices expressed in terms of years of median household disposable income. Iraq's estimate by years of income is 6.75. However, estimating the cost of housing is difficult because so many Iraqis own the houses they occupy.

The Ministry of Construction and Housing governs the housing construction sector. The Ministry regulates, plans, and executes some development projects through its state-owned companies. The last significant increase in housing supply occurred between 2000 and 2004 when approximately 200,000 housing units were added as a result of direct government support through the provision of subsidized materials and newly available land. In addition, prior to 2003, the government had established a $200 million fund, administered by the Iraq Housing Fund (IHF), through which government workers could purchase a home.

The private sector has always dominated construction, however. Government-build housing only ever met 15 percent of Iraq's housing demand.[182] The Iraqi government has been awarding investment licenses for the development of housing to private companies, although the pace of issuing these has been quite slow. Most private construction companies are local and relatively small in size. A recent survey suggests that the typical construction firm in Iraq employs 20 full-time and 50 part-time workers.

The public sector used to dominate the building-supply sector through the state-owned enterprises (SOEs) that produce cement, refractories, glass, plastics and other construction input materials. However, the SOEs are very inefficient and according to the NIC they typically operate at less than 20 percent production capacity. Consequently, most construction materials are imported into Iraq despite the fact that Iraq has ample deposits of iron ore, copper, gypsum, bitumen, dolomite, and marble at grades suitable for commercial use. While this reportedly increases costs by ten to twenty percent, contractors report that materials are readily available, although they complain about the quality of imported materials relative to materials that are domestically produced.

To increase the production of essential construction materials, the Iraqi government has begun to encourage investment in the building supply sector. For example, Lafarge, the multinational cement producer, has contracted to modernize and operate two cement plants for the state-owned South Cement Company in a public-private partnership deal. It is still unclear how successful this arrangement will be as it has encountered problems in the early stages.

Construction activity in the three northern provinces of the Kurdish Regional Government (KRG) area is quite robust with numerous construction projects being implemented, including several major housing projects. The KRG has been successful in attracting significant foreign investment, with several of the housing projects marketed to affluent

[181] National Investment Commission, Housing and Construction, Investment Overview of Iraq, 2009
[182] UN-HABITAT and World Bank, "Iraq Housing Market Study," December 2006

households, particularly in Erbil (e.g., the American Village). Investment has largely failed to respond to the housing needs of lower and middle income households. A 2009 survey conducted by Kurdistan Institution for Political Issues (KIPI) showed that the cost of housing in the region is people's number one cause for concern.[183] Thus, while KRG's housing market is more dynamic than the rest of the country, it shares the problem of an inadequate housing stock for the non-affluent.

Almost all housing transactions are done on a cash basis, typically funded through the purchaser's savings. There is a very limited commercial primary housing finance market. According to a survey in 2004, only 2.8 percent of homeowners had a mortgage on their house.[184] Iraq created a Real Estate Bank in 1948, but it provided few loans, with very restrictive conditions.[185] Even at its peak, in the 1970s and 1980s, it provided financing to only about 12 to 13 percent of the households. Commercial banks have historically not provided loans for housing finance but instead have focused on the business sector. The National Housing Policy recommends that the role of the Iraq Housing Fund and the Real Estate Bank should shift from being a primary lender for a restricted market (i.e., civil servants) to backstopping commercial finance. The government is considering allowing the IHF to work through private (and not state) banks, as state banks have yet to develop the skills required for proper risk assessment and management of housing finance.[186] However, so far, even commercial loans to businesses have been paltry, which is indicative of deficient credit market in Iraq. For example, the ratio of credit to GDP is 10 percent, below the regional average of 55 percent. Fewer than 5 percent of SMEs have ever taken a bank loan.[187]

Commercial banks are reluctant to lend to families to build or buy a home primarily because Article 15 of the Estate Lease Law No. 87 of 1979 allows a defaulting owner or lessee occupant of a house to stay even after a judicial foreclosure sale, with annual rent limited to 5 percent of total assessed value of the house. Thus, the house has much less value as collateral against a mortgage.[188] Moreover, many Iraqis wait for the government to offer a special deal to a select group for low-cost financing and then try to use connections to become eligible for the program, displacing the market for commercial mortgage lending. The government often provides and subsidizes housing finance for its own employees, who are also preferred in obtaining new housing units.

Investment Law No. 13 of 2006, as amended, allows investors to obtain state land for private housing developments, but difficulties remain as the government has proven reluctant to release state land for development. In fact, the difficulty in getting land is perhaps the most frequent complaint heard from developers. The 2010 amendment to the Investment Law provides for one of the only exceptions to the constitutional prohibition against foreign land ownership.[189] Under the 2010 amendments, foreigners may obtain or buy land through a licensed investment project for "the exclusive purpose of executing housing projects."[190] While many recent deals have been announced for the construction of large housing projects by foreign investors, few if any of these projects have broken ground.[191]

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[183] Niqash Cost of Housing is Number One Concern in Kurdistan. Feb 2, 2010. http://www.niqash.org/articles/?id=2601&lang=en Accessed on November 6, 2011

[184] A survey conducted by USAID

[185] UN-Habitat Iraq Market Study 2007

[186] World Bank, "Iraq Briefing Book," 2010

[187] Republic of Iraq Financial Sector Review, World Bank, 2011.

[188] Ibid.

[189] Article 23 (Third), Constitution of 2005.

[190] Law 2 of 2010.

[191] Iraqi investments in housing units are in shortage and the real estate investments are faltering; *Zawya*, December 5, 2011 at http://www.zawya.com/story.cfm/sidZAWYA20111205034636

According to the Investment Law and its regulations, a developer goes to the Provincial Investment Commission (PIC) for projects under $250 million to negotiate a deal for the land.[192] The developer is tasked with all planning activities and must set aside and develop green space as well as retail space. This is a form of municipal spatial use or spot zoning planning within each project, as municipalities do not have comprehensive spatial use plans providing for public use, residential, commercial and industrial space. Urban planning is thus done on an *ad-hoc* basis. Provided that the plans are acceptable and the investment license is granted, the PIC attempts to obtain title for the land. This step often proves difficult, as the procedure requires approval of the ministry which owns or has use rights for the land, the Ministry of Finance, the General Commission of Taxes, the Provincial Government, the Land Registry and, if the project is large, a committee within the secretariat of the Council of Ministers. Housing finance is organized through state banks taking deposits for down payments prior to construction from private sector buyers and from the public sector. Many ministries reserve slots for their workers in these housing complexes. The government workers have to provide the down payment but have easier repayment schemes than do private buyers.

Land issues, including unclear land title, multiple layers of land use rights and the lack of an efficient process for the allocation of government land, are a significant impediment to housing and other construction. Land titles and the land registry system still follow the Ottoman system in which much of the land is held by the state, but subject to usage rights of indefinite term (*tassaruf*), rights which can be inherited or conveyed. Other rights and restrictions on land derive from tribal rights, agricultural land reform policies, and adverse possession.

Title to land is further clouded in some cases by the arbitrary grants of land usage by the Baathist state before 2003. These grants, which in some cases were granted as part of a policy to change the ethnic character of areas, are now in turn subject to the process of the Property Claims Commission, which is in the process of adjudicating more than 175,000 claims of displaced persons.

While the basic land law and land registration procedures are sound, problems caused by lost, destroyed, or forged title records further complicate the real estate market. There is still a lack of cadastral mapping enabled by precise geographic information systems (GIS) within land records, which leads to the continuing use of aging property boundary maps. Conveyance records are sometimes on high-acid content paper, which deteriorates rapidly.

The Iraqi Government's current system of land allocation involves interagency committees at the level of the Council of Ministers to determine which projects will get land and where the land will be. Land allocation is also an issue for government agencies themselves, as ministries which control the use of land often resist relinquishing those rights. This has impeded many donor-funded projects, including a World Bank funded project to build schools, and could be expected to impede Ministry of Housing and Construction projects.[193] The land allotment process is somewhat opaque and lengthy, with no published standards or formal procedures for intervention by the requesting investor.

Donor involvement in land sector reforms has focused on some equipment and capacity building for the offices of the Land Registry Directorate of the Ministry of Justice, training and equipment for GIS systems to land authorities within provincial governments, the Ministry of Agriculture, and the Land Registry, and some work on mortgage finance reform.

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[192] The developer goes to the NIC (National Investment Commission) for projects over $250 million.

[193] Comments of Chairman of the Prime Minister's Advisory Committee Dr. Thamir Al-Ghadban at Rule of Law International Partners Committee subcommittee on Land Reform on December 1, 2011

## II. Constraints to Necessary Economic Performance

Research on housing and light construction revealed several constraints to good economic performance. This research identified five principal constraints:

- Skilled labor supply
- Credit market
- Land market
- Material inputs
- Construction permitting

*Skilled Labor Supply* Due to the years of isolation, the construction skills of Iraq's labor force are outdated on the whole. In addition, skilled labor in Iraq demands higher wages than in neighboring countries. One company claimed that skilled labor is double of prevailing wages in the region. They asserted that an engineer in Jordan can be hired for $1,500 while in Iraq it costs $3,000 to $5,000. They also claimed that unskilled labor is more expensive -- $500 a month compared to $400 a month in Jordan. As a result, construction companies tend to bring in a lot of foreign workers, which means the job-creating potential of the expanding construction sector is not being fully realized. Companies also complained that Iraqi workers tended to have a lower work ethic as well.

*Credit Market:* Housing finance is quite limited. Where credit is available, banks require extremely high collateral (100 to 200 percent) and charge high rates of interest (12 to 14 percent).[194] Banks need have better assurance that they will receive the collateral for the loan in the event of default. There is also a culture against repossession, whereby people are reluctant to buy a neighbor's house that has been repossessed.

*Material Inputs:* Material costs in Iraq represent 36 percent of total housing costs, compared to 28 percent in India and 30 percent in the U.S. This high level reflects the costs of using imported material – import licenses, customs clearance, and high cost of freight. Material costs are reported to run ten to twenty percent higher than in the region.

*Land Market:* Land costs are high at 35 percent of total housing costs and reflect restrictions on the land market.[195] The problems in the land market have been discussed in more detail above. These include issues of unclear land titling and difficult bureaucratic procedures to secure land. An additional problem is the lack of urban planning, which makes government officials resistant to release new land into the market.

*Construction Permitting:* Construction projects require numerous permits (13 according to one contractor). While the NIC was created to help expedite the permitting process for businesses through creating a one-stop shop, this has failed to work in practice, since NIC has not been adequately empowered. Ministries have resisted letting the NIC exercise its authority, which means that businesses are compelled to walk permits through each of the respective ministries. This exposes businesses to rent-seeking bureaucratic behavior. When this is not the case, they frequently face risk-averse bureaucrats who resist making any decision at all, thus paralyzing the process. The Real Estate office at the Ministry of Finance, which gives rights to lands, is most commonly listed as the primary chokehold in the

[194] Currently, banks disinclination to lend is in large part explained by the availability of government bonds which have a high yield. This offers a much less risky way to secure a high rate of return. There is pressure on the Central Bank to bring down these rates, which many predict will free up capital for lending.
[195] Iraq Briefing Book, World Bank, 2010.

process. All this has made personal connections critical to this process, which has created a huge deterrent to foreign investment.

## III. Diagnostics

The Tijara team used its research to identify the above impediments as the most important (significant) constraints on improved performance of the Housing and Light Construction economic activity. From that analysis it derived five promising development initiatives (**Table 40**): (1) strengthen capacity of skilled labor force; (2) address flaws in the credit market; (3) improve conditions in the land market; (4) improve the material input market; (5) rationalize the construction permitting process.

As with other economic activities, the research team assigned scores to each of the possible development initiatives that would address the causes of current dysfunction.

First, each of these initiatives was ranked in terms of their urgency. Initiatives deemed to be *highly urgent* were assigned a score of 5, and initiatives of *intermediate urgency* were assigned a score of 3.

Next, these development initiatives were assessed in terms of their contribution to other economic activities in Iraq. Rectifying a specific cause of dysfunction that then spills over to rectify a constraint in a different economic activity is called additionality. Additionality was judged as high (5 points), medium (3 points), or low (1 point). Each possible development initiative was given a score for urgency and for additionality. These are shown in **Table 40.**

The individual initiative value (IV) scores were derived as follows. Notice that an initiative to rectify labor force skills was considered to be of intermediate urgency (3) and to have intermediate additionality (3). Applying the weights of 0.6 for urgency and 0.4 for additionality yields an initiative value (IV) of 3.0 derived as: 3 x 0.6 + 3 x 0.4 = 3.0.[196] Repeating this for the other development initiatives yields five initiative values (or scores). These five scores were then averaged to obtain a Program Value Score (PVS) of 3.9.

**Table 40: Promising Development Initiatives in Housing and Light Construction**

| DEVELOPMENT INITIATIVE | URGENCY | ADDITIONALITY | IV | PVS |
|---|---|---|---|---|
| Labor Force Skills | 3 | 3 | 3.0 | |
| Access to Credit | 5 | 5 | 5.0 | |
| Land Markets | 5 | 5 | 5.0 | **3.88** |
| Access to Input Materials | 3 | 1 | 2.2 | |
| Permitting Environment | 5 | 3 | 4.2 | |

[196] The team made a judgment that degree of urgency should be weighted somewhat higher than additionality.

## IV. Program Implications

The results listed in Table suggest that the most promising benefits (payoff) to the Housing and Light Construction activity are likely to come from: (1) improving access to credit; (2) improving land markets; (3) strengthening labor force skills; and (4) developing a more efficient permitting process. Possible programs for each of these will be considered in what follows.

Strengthening access to credit will require a multi-pronged approach. Current efforts to create a credit bureau need to be further supported. Legal protections that would allow banks to more easily claim collateral for loans in the event of a default will also help lower currently burdensome collateral requirements. In order to ensure that banks have adequate capital, a secondary market for mortgage loans would help banks to better manage their risk. Additionally, currently high capital requirements for foreign banks should be lowered to allow more banks to enter the market. Introducing deposit insurance would help give Iraqis more confidence in banks so they would deposit money there, providing banks with more capital.

As described in the above narrative, the land market problem is complex and requires a multi-faceted approach. Technical assistance in developing a rationalized land tenure system, which more clearly defines ownership, could be a great benefit. Such assistance could also extend to developing a GIS-based cadastral mapping system. Iraq is also in need of a much more simplified process for land permitting. This might include rationalizing which ministries are involved with this as well as creating a clear, simple, and efficient process for pursuing licenses. Part of the paralysis is due to a lack of urban plans, which prevents ministries from releasing land. Given capacity constraints, technical assistance to help municipalities develop rudimentary urban plans could greatly assist in guiding government decision-making. The current practice of requiring developers to do the planning within the development might also benefit from greater capacity for regulation and oversight.

The growth in the construction sector will be a boon to employment in Iraq only if the domestic labor supply can meet the demand in terms of skill set. Construction companies in Iraq rely on a significant number of expatriate staff both for higher level skills such as engineering and management as well as for trade-level skills. Capacity building will naturally take place over time as Iraqis working alongside these expatriates will acquire skills. Vocational training programs directed toward bringing the Iraqi workforce up to date with current construction techniques could accelerate this process. Programs to reform the curriculum and pedagogical approaches at universities and technical institutes could also be explored to ensure that the techniques taught are current and that students acquire practical skills that can be used in the marketplace. Success in these programs depends in part on lowered wage expectations by Iraqis who are currently demanding wages that are high for the region.

Businesses widely decried the degree to which the permitting process for land and development is a cumbersome process. While some of the Provincial Investment Commissions were lauded for their advocacy efforts, the National Investment Commission (NIC) has not lived up to its original promise. Technical assistance to help strengthen the NIC to realize its function in expediting investment could be of great benefit. This would likely involve working with the relevant ministries who appear to be resisting relinquishing authority to the NIC. When corruption is not the issue, this has led to a paralysis with bureaucrats hesitant to make any decision for fear that they might appear to be bought. By creating more transparent deliberative processes that include the relevant ministries, greater efficiency can be achieved.

These four initiatives could help accelerate the private sector response to the gaping housing needs. On the government side, improved land markets and a more efficient permitting process are complementary initiatives that will allow developers with sound business plans to move forward with projects. Increased access to credit would expand the number and scope of projects that could be done. Finally, improved labor skills will mean that the growth of the construction sector will expand employment opportunities for Iraqis.